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WHOLE EARTH Review

TOXIC VIRONMENTALISTS

ALSO: WENDELL BERRY • WILL BAKER • ANNE HERBERT

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REDEFINING CITIES

by Peter Calthorpe

I LIVE in a town of environmentalists. They care about saving the Bay, they care about the open hills nearby, they have a recycling program, they want to preserve the small-town quality of their home, and they care a lot about auto congestion on their streets. They support slow or no growth. In our culture, growth means urbanization, congestion, homogenization, destruction of wildlife, reductions of open space, and pollution of all types. Growth is what developers want, ordinary people bear, and environmentalists battle.

Underlying these simplistic confrontations, many unquestioned assumptions and entrenched paradigms cloud the issues. Our image of the city as a cancerous lesion oozing with pollution and destroying the environment as its relentless growth paves the Earth is born of nineteenth-century industry. Our image of suburbia is born of the fifties: the placeless strip, franchise businesses, relentless subdivisions and freeways. These images, no longer grounded in social needs or technical necessity, linger as a demon polarizing interest groups and traumatizing conservationists. Given these alternatives, no growth is the best localized solution.

Ideally, the city is the most environmentally benign form of human settlement. Each city-dweller consumes less land, less energy, less water, and produces less pollution than his counterpart in settlements of lower densities. Housing densities of suburban subdivisions range from 4 to 6 units per acre, while urban housing ranges from 20 units (rowhouses) to 80 units (mid-rise construction) per acre, meaning less land is needed for each person. Most cities in the U.S. are built on or near prime agricultural land. Squandering this by covering it with low-density housing and its water-dependent landscaping is foolish enough, but, in addition, lower densities demand more auto usage and therefore more land dedicated to transportation. The average metropolitan region in the U.S. dedicates nearly 50 percent of its land area to storing and moving automobiles.

The city consumes less energy for several interactive reasons. First, its more compact buildings have more shared walls, less exterior surface, and therefore smaller heating demands. In a study comparing different housing densities in 11 cities, heating demands were on the average 1.8 times greater in single-family dwellings than in attached types. An efficient solar system would barely correct such a large disparity. Secondly, higher-density housing allows the possibility of district heating. These systems, in wide use in Scandinavia, use the waste heat from electrical power generation for home heating, increasing the fuel efficiency of the power stations by up to 200 percent. Finally, cities reduce travel distances and therefore auto usage. High density and mix of uses make mass transit viable, economical, and efficient. For example, in urban San Francisco, 45 percent of all trips are on mass transit, while in suburban San Jose it's only 8 percent. Residents of an average household in Portland, Oregon, travel 12,200 miles per year, while a typical family living outside the city limits travels 23 percent more, burning nearly the same amount of energy it would take to heat a townhouse for that year.

Architect Peter Calthorpe lives in Sausalito on a houseboat in the waterfront district. Here legislation intended to protect the Bay from environmental abuse was eventually cited to elbow out coarser human marine species like fishermen, boat people, artists, small-shop workers and anyone else remotely untidy. —Kevin Kelly

Hospitable cities are environmentally great; unpleasant ones breed wide environmental ruin.

The accumulated effects of these aspects can be seen by comparing the per capita energy consumption in an urbanized culture to our own suburbanized pattern. A citizen of Sweden, a country with a similar industrial profile, a higher standard of living, and a more severe climate, consumes only 55 percent as much energy as the average American.

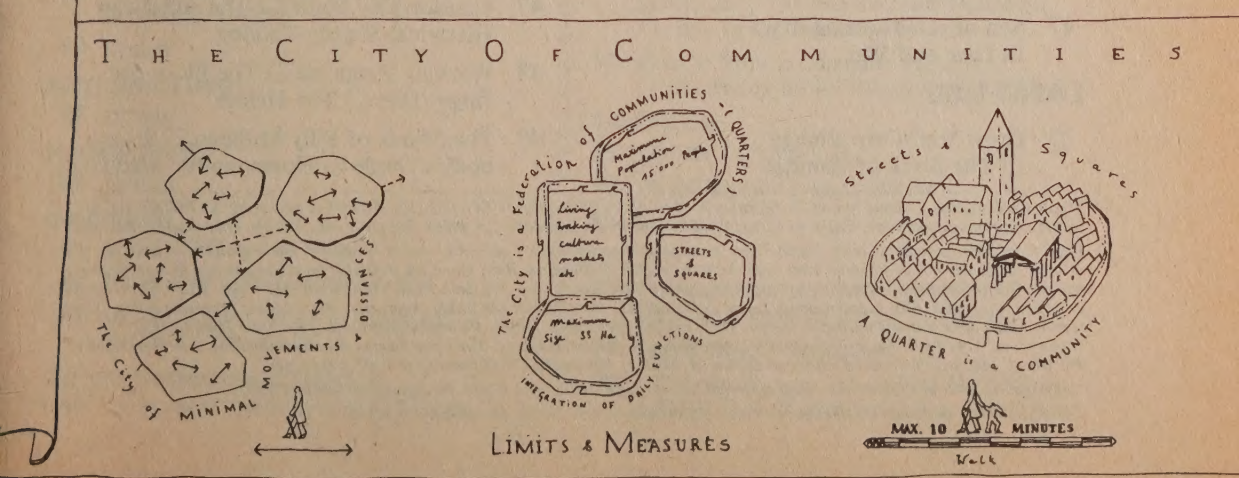
The problem with employing these rather obvious urban benefits is simply that we have forgotten how to make cities that are livable. Since the beginning of the industrial revolution the city has been dying; first industry caused unrestrained pollution and overcrowding, then the auto destroyed the city's human scale and pace, and finally modern theories of planning, some pressured by no-growth environmentalists, sapped its vitality by segregating urban activities and abandoning its public places. We all know and love old European cities and towns. But these preindustrial forms, born of a less consumptive relationship to nature, are considered impractical, romantic, and irrelevant.

As an ecological model, the preindustrial city offers many lessons: they were walkable, they mixed our daily needs and activities, they had clear edges which brought the natural environment closer, they had highly developed public places, and they maintained human scale both physically and socially. Some European planners are beginning to rediscover their pre-industrial centers as more than tourist attractions and are imitating them in new growth areas.

Leon Krier, one of the more radical designers of our time, has demonstrated the methods of preserving and creating the diversity and vitality of old-city life. For him the city must be broken down into traditional "quarters," each with a complete mix of activities and dimensions, which are scaled to the pedestrian. Re-urbanization involves shifting part of what has become private in a consumer society back into the public realm. Public spaces, streets, squares, and parks must become dominant again, with privacy respected but shared places emphasized.

Krier's definition of urban form excludes most American cities. In his eyes they are more like large, dense suburbs; they are auto dominated, are zoned for single uses, and have a marked poverty of common places and public amenities. The environmentalist is correct in opposing this crude growth, both in urban centers and in suburban towns. But opposing growth in one area often fosters it in another. In the Bay Area, conservationists have successfully limited growth in many towns close to San Francisco, but have ultimately shifted the problem to more distant and unprotected areas. This drives sprawl into virgin land and exacerbates commuter traffic, which in turn drives commuters further from the city center seeking empty streets — a self-perpetuating sprawl. What is needed are models to increase densities in developed areas and urban cores by transforming them into mixed-use urban quarters rather than overbuilt suburbs.

Environmental activists have shunned the city and have avoided both the city's problems and the city's advantages over suburbanization. Indeed, this neglect can be considered one contribution to suburban growth. Environmentalists must accept cities and participate in redefining them, learning to operate the steering wheel as well as the brakes. Growth must be directed — not blindly shifted. ■



Drawing by Leon Krier, in *Lotus International*. Further work in *Counterprojects*, Archives D'Architecture Moderne, 14 Rue Defacqz, 1050 Bruxelles, Belgium.

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COVER: A joint effort by our art director Kathleen O'Neill and illustrator James Donnelly. James did the drawing and Kathleen painted the colors. Further on in this issue there's more of both: cartoons by James for "Eco-Ethics" (p. 5), and Macintosh sketches of California poppies by Kathleen for Anne Herbert's story, "Let the Good Times Last" (p. 64).
—Kevin Kelly

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ENVIRONMENTALISM AS POISON?

by Stewart Brand

THE PRICE OF SUCCESS IS PARALYSIS USUALLY. Whatever works, you keep doing. If it starts working less well, you do harder, to keep up. Later, with still no great gain, you get rid of "creative" excess baggage and do harder still. A couple years of blame and burnout and all you got left is professionals. And lawyers.

The Environmental Movement has been a resounding success, as a movement. Preserve wild, preserve habitat, preserve diversity, respect the larger system and longer term — these have become national mores. Environmental Impact Reports have infiltrated the political texture right down to the village level, to everyone's gain. The reason the U.S. doesn't have a Green Party, as Germany does, is that the need for one is less here. We've been greening for a while, and it's accumulated admirably.

Bravo, Movement. But why are we no nearer the fundamental goals than when we began? Long-term balance is nowhere in sight. Soil depletes, species deplete, human cultures homogenize, while we plant vast and satisfying quantities of ornamental trees in the suburbs.

The Environmental Movement is not intellectually bankrupt, it merely acts that way, as if any serious originality would threaten all that has been accomplished. This great public endeavor supposedly based on the insights of science is devoid of self-criticism. Are we to believe that Environmentalists have always and everywhere been absolutely correct? That would mean that either 1) Environmentalists never try anything significantly new and will perish of tepidity, or 2) they never learn from their mistakes and will perish of stupidity. Or they're lying, just like every other pious self-righteous bunch.

In this issue of Whole Earth Review are a few mild, inside criticisms of the Movement That Is Boring Itself To Death. "Eco-Ethics," by Richard Watson, p. 5; "Making The Most of Professionalism," by Dave Foreman, p. 34; "A Few Words in Favor of Edward Abbey," by Wendell Berry, p. 38; and "Let the Good Times Last," by Anne Herbert, p. 62.

Refutations welcome; better and nastier complaints even more welcome. A mule this big and smug requires a substantial two-by-four across the nose to get its attention. I'd love to see an article on economic theory as it is known in the Environmental Movement, all two ideas of it: "be nice; don't waste." Maybe one of the great things that hunters bring to the movement is their business sense.

Meanwhile, there are signs of life — vigor if not yet rigor — on the fringes of the movement that deserve your inquiry and possible support. For robust hardass activism check out Earth First! (their magazine, *Earth First!*, is $15/year [eight issues] from Earth First! P. O. Box 235, Ely, NV 89301). For a solid critique of Environmentalism ("shallow ecology") look into the body of ideas around "Deep Ecology," best collected in a new book, *Deep Ecology: Living as if Nature Mattered*, by Bill Devall and George Session, coming from Peregrine Smith Books. We'll review it properly next issue. Deep Ecology is a good restart. It'll need Deeper Thought to go very far.

Environmentalists know they're on the right track. That's the mistake.
It's not a track. ■

MacPaint illustration, by Kathleen O'Neill, of POISON HEMLOCK (Conium maculatum).
SYMPTOMS: Humans show weakness, loss of sight, death from paralysis.

ECO-ETHICS

Challenging the Underlying Dogmas of Environmentalism

by Richard Watson

illustrated by James Donnelly

I. ECO-PHILOSOPHY, ECOSOPHY, OR DEEP ECOLOGY

ENVIRONMENTAL ETHICS has naturalistic roots in the science of ecology, the study of the interrelationships among living organisms and their environments. 'Ecosystem' is the most common term used to indicate such a complex. Ecosystems are holistic, something that led Barry Commoner to formulate what he calls the first law of ecology: that everything is connected to everything else. Unlike old time idealists, eco-philosophers do not claim that if you are to know fully about any given item in an ecosystem, you must necessarily know everything about the system, but, instead, that you must at least understand the system's total organization and the functional place of the item in that system.

Although this general notion of mutual interrelationships necessary for the maintenance of living organisms is at least as old as Aristotle, it was only after Darwin that Ernst Haeckel used the term 'ecology' in 1866 to refer to the study of the "economy of nature." The term literally means "study of the home," and in this sense it has been used by Marxists, anarchists, and poets to discuss the true economy — that is, a moral (meaning moderate) balance — of mankind.

I think it is important to keep these roots in mind. Environmental ethics rises out of the same social and scientific soil as does evolutionary ethics.

Eco-philosophy, ecosophy, or deep ecology is defined by Arne Naess who originated the concept as a "total field model" in opposition to the "man-in-environment" model of living organisms in the environment. His most recent statement of the tenets of "the deep ecological movement" is as follows:

1) The well-being of nonhuman life on Earth has value in itself . . . independent of any instrumental usefulness for limited human purposes.
2) Richness and diversity in life forms contribute to this value and is a further value in itself.
3) Humans have no right to interfere destructively with nonhuman life except for the purposes of satisfying vital needs.
4) Present interference is excessive and detrimental.
5) Present policies must therefore be changed.
6) The necessary policy changes affect basic economic and ideological structures, and will be the more drastic the longer it takes before significant change is started.
7) The ideological change is mainly that of appreciating life quality (dwelling in situations of inherent value) rather than enjoying a high standard of life (measured in terms of available means) . . . [making us] less dependent upon material manifestations . . .
8) Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes.[1]

As you can see, eco-philosophy, ecosophy, or deep ecology is conceived of as a radical

The underground wilderness of caves, particularly ones beneath exotic Turkey and Iran, were Richard Watson's entrance into the uncharted world of ecology. As one of the world-class cavers who mapped the 300-mile Mammoth Cave system in Kentucky, he found there some understanding of environments. Environmental-movement understanding came as president of the Cave Research Foundation, as Trustee of the National Parks and Conservation Association for 12 years, and as a philosophy professor at Washington University in St. Louis. —*Kevin Kelly*

The well-being of nonhuman life on Earth has value in itself . . . independent of any instrumental usefulness for limited human purposes.

Richness and diversity in life forms contribute to this value and is a further value in itself.

Humans have no right to interfere destructively with nonhuman life except for the purposes of satisfying vital needs.

Present interference is excessive and detrimental.

Present policies must therefore be changed.

Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes.

activist political program. This program involves a drastic reduction of the world's human population. Naess says 200 million humans on earth might be about right to accommodate all forms of life. (I once argued that 500 million, the world's population in 1650, the century of genius in both the East and the West, would be about right for a civilized world.)[1,2]

Naess presents no arguments for his basic claims 1 and 2 that life and diversity of life have value in themselves. Obviously, however, these principles derive from the fact that complex ecosystems with great diversity of life forms have greater stability and survival value in changing environments than do simple ecosystems with only few life forms. This makes deep ecology a form of evolutionary ethics.

More than that, the first principle, that life has value in itself, seems to be a specification of the principle that whatever is, is good or right. But this is to go too far, and most deep ecologists approve of pioneer environmentalist Aldo Leopold's more limited statement about right and wrong: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends to do otherwise."

The difficulty with this, of course, is that in terms of ecologic balance, simple desert ecosystems are generally just as integrally interrelated and stable as complex rain forest ecosystems. The clue to what underlies the reasoning here is the inclusion of the notion of beauty. In fact, human beings prefer complex ecosystems because they provide more resources for human use. This may be why human beings think that complex ecosystems are more beautiful than simple ones.

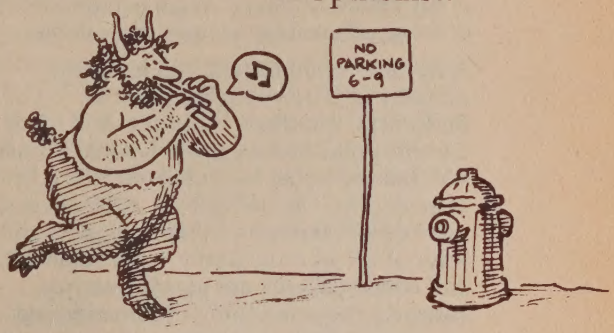
I also find deep ecologists such as Naess ambiguous on a question that arises from his third principle, the limits to which humans can go in interfering destructively with nonhuman life to satisfy vital needs. Although deep ecologists do talk of gardening and of animal husbandry, their ideal seems to be to interact with the environment no more disruptively than would primitive hunters and gatherers who live off wild foods and game. The current estimate is that there were about five million people on earth in that condition just prior to the agricultural revolution about ten thousand years ago. And as I remark above, in 1650 just prior to the industrial revolution, there were 500 million people on earth. The ideal, then, seems to be some sort of subsistence farming with a technology powered only by men and animals, wind and water, and wood fires, that is, no fossil fuels such as coal and oil giving rise to industrial technology would be allowed.

The thing that bothers me most about this movement is not this winsome pastoralism, but rather the dogmatic assurance with which its proponents assert that life, diversity of life, and complexly stable ecosystems have intrinsic value. This just seems self-evident to them. Also apparently self-evident to them is an animal egalitarianism in which

humankind is to occupy no more of the environment (humankind is not to increase in population nor tame the wilderness) than is congruent with all other forms of life fulfilling their capacities. For example, grizzly bears require vast ranges of territory that human beings, on these egalitarian principles, have no right to take over for their own uses.

Naess does propose one sort of argument for these proposals. He appeals to Spinoza as the father of eco-philosophy, deep ecology, and environmental ethics. This is presumably because Spinoza says that God and the universe are one in the sense that the universe flows out necessarily from God, so that everything is related to everything else. But for Spinoza this also means that man has no free will and that "freedom" consists of recognizing and accepting whatever happens as what necessarily must happen. Thus Spinoza's philosophy is surely contradictory to the claim of such fiery individualists as Naess that revolutionary activity to promote deep ecology can improve the world.

A Spinozist.



II. ECO-RELIGION, ECO-MYSTICISM, AND ECO-MORALITY

Deep ecologists think of themselves as Spinozists, basically in the mystical, pantheist tradition. This view is just part of a broad spectrum of people in environmental ethics who call for a new eco-religion, eco-mysticism, or eco-morality.

The morality that is desired is basically the one I have begun to outline above: egalitarianism for all forms of life, indeed, for the environment itself. That is, an ecosystem itself is said to have value (and thus, as discussed below, rights). There are two main lines of development for this notion.

The notion that the earth or the universe is itself a living organism is very old. One group of environmental thinkers has developed this notion under the concept of Gaia, the living earth. In this system, human beings are minor parts. It is claimed that far from being wise, human beings are extremely stupid in their belief that they can develop the earth in ways that will enhance either their own well-being or the well-being of other living things or the well-being of the earth itself. Something like this leads Barry Commoner to formulate his third law of ecology, which is that nature knows best. Probably that should be "Nature" with a capital *N* in this context.

There is demanded by this view a very severe sense of humility on the part of human beings. In "On the Nature and Possibility of an Environmental Ethic,"[3] Tom Regan formulates a general moral imperative for human beings who are part of the total living ecosystem:

> By the "preservation principle" I mean a principle of nondestruction, noninterference, and generally, non-meddling [by human beings in nature]. By characterizing this in terms of a principle, moreover, I am emphasizing that preservation (letting-be) be regarded as a moral imperative.

Besides Spinoza, Heidegger is another philosopher cited as authority for this particular subordination of humankind in the total living environment. The tie here seems primarily to be to those parts of Heidegger's works in which he deplores the development of industrial technology and asks for a return to the folk wisdom and folk ways of a naturally modest and humble local peasantry. The truth is that if Heidegger had not fastened onto a false prophet during the Nazi interlude, he certainly would have been the hero of the 1960s rather than Marcuse, for a considerable amount of the critique of one-dimensional contemporary society comes from Heidegger.

Despite these big guns — Spinoza and Heidegger — I find it difficult to swallow the notion that the earth or the universe itself is a living organism. Even if it were, it is not clear to me either that it has value in itself or that humans are mere egalitarian parts of it. Or, rather are we really to view humans as parasites or a disease of the larger organism as many environmental thinkers suggest? This is quite a letdown from Hegel, who thought we were the brains.

This Judeo-Christian notion of defilement comes through very strongly in some of the

anti-humanists. David Ehrenfeld, for example, closes his 1978 book, *The Arrogance of Humanism,* with the sentence, "We have defiled everything, much of it forever, even the farthest jungles of the Amazon and the air above the mountains, even the everlasting sea which gave us birth."[4] This is a great exit line, of course, and it illustrates the confusion in eco-moral thinking. Value is independent of man, yet, somehow, only man defiles.

A number of those who call for a new morality or a new religion point to Buddhism, Hinduism, Jainism, and other Eastern philosophies and religions. I must say that my initial feeling about this is one of suspicion. I know that the romanticized versions of American Indian religions and ways of life as ecologically wise, balanced, and conservational are mostly baloney. I suspect the same thing of romanticized versions of Eastern religion and pantheism, and that the versions we encounter probably have been cleaned up like the movie *Gandhi.* There is, after all, a lot of sexism, racism, and cruelty to animals in the East, and I worry about that. And it is true that my brother, who is Head of the Contemporary China Institute of the School of Oriental and African Studies at the University of London, says that the current Western romanticism about Eastern religions is and always has been — not to put too fine a point on it — softheaded nonsense. Actually, what my brother said was that it is bullshit, which seems to be the opinion of a fair number of scholars I know who actually know the languages and go to the countries to do field work, as contrasted to prattling over translations from armchairs. But beyond that, there seems to be a lot of misanthropy in Eastern mysticism (at least that's the way I see it from my armchair, although I must protest that I have spent three years in the field in Iran and Turkey, not exactly the romantic East these days, I'll admit). I'll get on with misanthropy in the next section.

Well, let me leave that impasse (I will come to a couple more in a minute), because incomprehension of the ontology of idealism is not really what bothers me here. What I want to know is, suppose the world *is* one big thought or mind, then so what?

Here, I think, is the answer. Just as with the naturalistic ethics of the deep ecologists, the advocates of eco-religion or eco-mysticism or eco-morality base their views about what is good and right on what exists. Perhaps the deep ecologists base it on what just happens to exist or what exists because of the evolution of the universe and life on earth. The mystics seem to base their views about what is good and right on pretty much the same thing when you get down to it, that is, they base their views on the way the world-spirit thinks or on the world-thought or somesuch. That's nice, but do the gods love it because it is good, or is it good because the gods love it?

It is mysticism itself that bothers me most.

If the world or universe is not a big animal, how about its being a big mind? Maybe we're all just parts of a grand thought. Or the becoming of Platonic being.

My problem is that although I think I understand what the philosopher Bishop Berkeley means by saying that the world consists of sensible ideas, I cannot get a grip on what it would be for the world to consist of thought or to be mere thought. Does it mean only the way that Berkeley, Mill, Russell, Husserl, Heidegger, and Merleau-Ponty worked out the notions of phenomenalism and phenomenology? If so, I take that just to be the world we experience, and to think of that world as thought is to think of it as being thought into existence, not as something we experience the way we do in perceiving.

"Is life so generally awful, as Hobbes says it is, that when we have a good time we think it must be a gift of the gods?"

Need I remark that I am a son of the Enlightenment? I think religion is based on fear of death and power plays among human beings. I think mysticism is based on misinterpretation of superb experiences of life (are they so rare? is life so generally awful as Hobbes says it is, so that when we have a good time we think it must be a gift of the gods?). I am scared to death of both religion and mysticism (some people say that's being uptight, but that's not my problem). I am scared of religion because it is authoritarian and irrational. Of mysticism because it is life-denying and irrational. I don't *understand* principles that are contradictory. I don't *understand* talk of experiences or states that transcend ordinary experience, that cannot be categorized and discussed. I have been told that this is my lack and my loss. I am more to be pitied than refuted, more to be led along the right path than to be argued with.

No. I refuse. Rational blockheads of the world unite! There is something about somebody who knows or has seen the Absolute Truth that makes my blood run cold. They know what I should do. They want to put you in chains and then convince you that it is for your own good. Look, it won't do to reach for your gun; when you hear someone speak piously of religion, run.

III. ANTI-ANTHROPOMORPHISM, ANTI-HUMANISM, AND MISANTHROPY

Most of those interested in environmental ethics are children of the Enlightenment just as I am. They do not believe that human nature is fixed, but that it is malleable, and perfectable. Many of them blame our present maladaptations to and disaffection for nature on the Judeo-Christian religion as does Lynn White, Jr., in his classic paper, "The Historical Roots of Our Ecologic Crisis."[5]

God gave us jurisdiction over the beasts and the fields, and he told us to go out and multiply. We messed up in the Garden of Eden, so we have to earn our bread by the sweat of our brows, which means that we have to cut down the forests and plow up the fields and things like that. We are assured, however, that only human beings have souls. Descartes denied that animals even have feelings of pain and pleasure, so we can treat them simply as things God gave us for our use, as He did trees and mineral deposits. Later on Christ nailed home the truth that all that really matters is the salvation of one's soul, increasing the official Judeo-Christian scorn for the things of this earth. It is even said by some that the notion that good works will get you to heaven led to the capitalist revolution.

In the context of environmental ethics, the problem with the religions of the Book is that they are all anthropocentric. All of them make man the center of the universe. For all of them, the universe is created for man. Only man has any value in this universe; only man has a soul; only man has even sentience, or if donkeys and oysters *do* have feelings, those feelings are much coarser and are not felt as excruciatingly as we feel them. There is some begrudging acceptance of the argument that we were wrong to think that there is a scale of sensitivity to pain running from white men of royalty through white freemen and slaves to non-white men to women of all colors, the latter of whom do yell a lot when producing children, but after all, that is what they were made for.

This anthropocentrism is viewed with a very cold eye by eco-philosophers. I've already outlined some of their programs for decentralizing man. Elsewhere I've analyzed the anti-anthropocentric program in detail, and conclude that it is grounded on five principles:

1) The needs, desires, interests, and goals of humans are not privileged.

"Perhaps we should decide . . . to intensify our search for the feature that does establish that an entity has rights."

2) The human species should not change the ecology of the planet.
3) The world ecological system is too complex for human beings ever to understand.
4) The ultimate goal, good, and joy of humankind is contemplative understanding of Nature.
5) Nature is a holistic system of parts (of which man is merely one among many equals) all of which are internally interrelated in dynamic, harmonious, ecological equilibrium.

I concluded that the moral imperative derived from this eco-philosophy is that human beings do not have the right to, and should not, alter the equilibrium. All that is, is of equal value.

Arne Naess's eight tenets of the deep ecological movement cited in Part I are in response to my summation above, and he has forced me to realize that despite my supersensitivity to threats of authoritarian control (which will come out full-blown in the next section), I greatly underestimated not only the extent to which deep ecologists and eco-philosophers believe that they know what is right for earth and humankind, but also the extent to which they intend or at least desire to coerce, if necessary, everyone into the deep ecology mold. That is, if deep ecologists gained political power, they would enforce vast birth control programs, they would dismantle much of modern technology, and they would return enormous portions of the earth's surface to wilderness or natural conditions in which human beings compete (or cooperate) equally with all other forms of life. Deep ecologists believe that the great advantage human beings have because of their superior intelligence in the hierarchy of beasts has been abused. That is, our hubris is in thinking that we know better than Nature how to manage the earth. Deep ecologists heap scorn on the metaphor of "spaceship earth" by pointing out that we know so badly how to run the planet that it will soon be altered far to the worse by air pollution alone, which will cause either a new glacial age or an excessive interglacial rise in temperature, that is if we don't first burn up the whole surface of the planet and its atmosphere with hydrogen bombs that will further salt the earth with radiation so virulent that no known life forms could take hold here again for a million years. And so on.

What strikes me about this apocalyptic rhetoric is how many times we — the human race — have heard it before. Indeed, the great fears of previous times — war, plague, famine, and always death and damnation — are and were just as realistic as our present fears of nuclear annihilation. And also just as real in every case was and is the rise of dogma and dogmatists with the promise that faith in them and their ideas will save us. *We* are just to let *them* tell *us* what to do.

I *am* a believer! Not for a moment do I doubt the evidence that humankind depends on ecologic harmony with the natural environment, no more than I doubt the real danger of the nuclear holocaust. But what I do doubt is the humanity of the eco-philosophers — the eco-crats — who would rule humankind for its own good. I mistrust those who would rule all of society on the holistic model of ecologic balance for our own good. But they insist that they would do it for the good of humankind. So how can they be misanthropic, let alone do anything that would not be for the good of you and me? Perhaps it is because they put the good of the species over that of the individual. And this leads me to the fourth and final problem area.

IV. THE RIGHTS OF NONHUMAN ANIMALS, NONSENTIENT NATURE, AND ABSTRACT CORPORATE ENTITIES

The hero of animal rights advocates is Jeremy Bentham, who said, "The question is not, Can they *reason*? nor Can they *talk*? but, *Can they suffer*?" This point is canonized by Peter Singer in his book *Animal Liberation*[6] where he says, "So the limit of sentience . . . the capacity to suffer and/or experience enjoyment . . . is the only defensible boundary of concern for the interests of others . . . The capacity for suffering and enjoyment is *a prerequisite for having interests at all,* a condition that must be satisfied before we can speak of interests in a meaningful way . . . A stone does not have interests because it cannot suffer" (pp. 8-9). Later he says that "We ought to consider the interests of animals because they have interests" (p. 271). In relation to human rights, however, nonhuman animal rights are subordinate in the sense that humans are required to curtail only the unnecessary suffering of nonhuman animals. The concept of 'unnecessary' here is tied to human interests and needs, for if it is in our interest to cause the suffering of nonhuman animals, then it is all right.

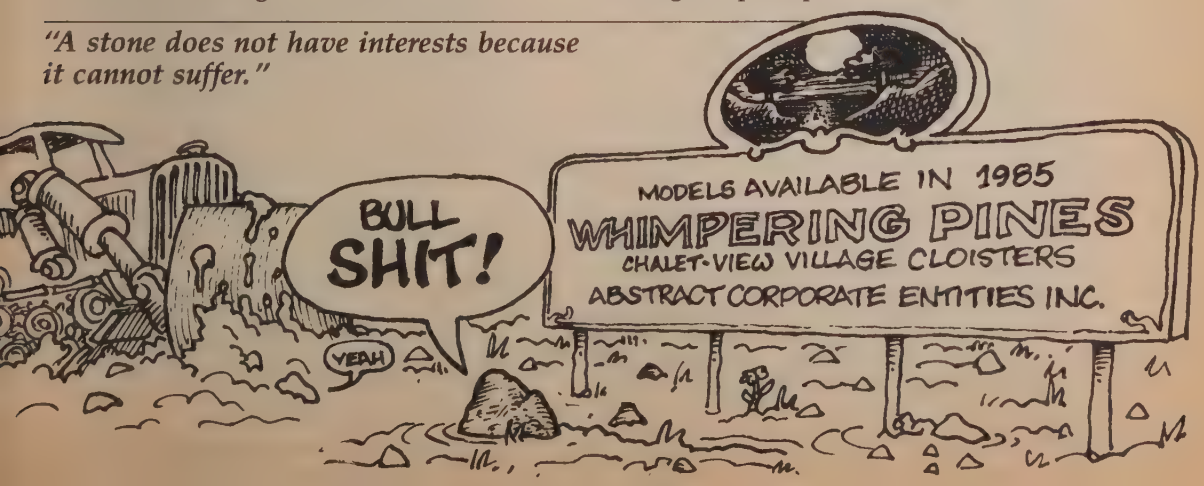
I present this travesty of Singer's position (which he has drastically modified in subsequent publications) in order to highlight certain problems. Here are some of them: Is sentience a behavioral or a psychic phenomenon? That is, does an animal have to be conscious to be sentient? (Consider so-called sensitive plants that respond to touch by drawing away and wilting.) Then, is consciousness enough? To feel pain, does an animal have to know that it feels pain? That is, to be sentient, does an animal have to be self-conscious? These same questions can be asked about the concept of interest. All animals have interests in the sense that they have needs that must be satisfied if they are to survive. But, to go to the heart of the matter, can an animal be said to have interests in a sense pertaining to having rights if the animal does not know itself that it has such interests?

Finally, there is the problem of why the possession of any natural feature — life, sentience, self-consciousness, rationality, language — should be taken to mean that the entity that possesses it has rights. But, then, all of the environmental ethics literature is so shot through with examples of the naturalistic fallacy that perhaps we should decide that it isn't a fallacy at all, and intensify our search for the feature that *does* establish that an entity has rights. My problem with literature is that most of it reduces either to the position that whatever is, is good or right, or to the position of evolutionary ethics that what leads to survival is good and right. I do not know why these positions do not reduce to the tautologies: what is, is, and, what leads to survival leads to survival.

John Rodman announces (in capital letters): "ALL NATURAL ENTITIES (INCLUDING HUMANS) HAVE INTRINSIC WORTH SIMPLY BY VIRTUE OF BEING AND BEING WHAT THEY ARE."[7] All right, what I have been arguing for is a reciprocity theory[8] to explain and justify the attribution of rights and duties. To say that an entity has rights (I argue) makes sense only if that entity can fulfill reciprocal duties, that is, can act as an agent. Then to be such an agent, an entity must:

1) be self-conscious,
2) understand general principles,
3) have free will,
4) understand the given principles,
5) be physically capable of acting, and
6) intend to act according to or against the given principles. →

"A stone does not have interests because it cannot suffer."



Little Kimberly proved that, as is usual with humans, she is simply unready for the "advanced" version of Nature. By Christmas afternoon, she had destroyed everything but the cockroaches.

Only then can an entity have, so to speak, rights in its own right.

So I'm the one who says that a necessary (but not sufficient) feature for having rights is that an entity be self-conscious. So there is hope for my cat, who, on behavioral evidence, is self-conscious. I leave open the question of whether machines or non-living entities can be self-conscious; I see no particular reason why not.

The problems that arise in this debate about rights have to do with questions about human fetuses, babies, idiots, and senile senior citizens. In *Practical Ethics*,[9] Peter Singer has faced many of these questions honestly and fearlessly, as must one who denies that there are absolute values in the universe, as real as matter and mathematics, whether God-given or not. That is, if you play the game of stipulating who and what has rights on the basis of natural features, then you have to be willing to cut and fill here and there. For example, if I think self-consciousness is the dividing point, and phenomenologist Herbert Spielberg is right that some humans do not have an I-am-me experience until they are seven, then I ought to be in favor of abortion up to and including the seventh post-partum year. That argument (which has in fact been thrown at me) indicates to me merely that we should not take rules and attributions made up by human beings as being perfectly adequate for every situation. I do believe, nonetheless, that value enters the world only under the scope of the interest, intentions, and actions of self-conscious entities.

But I want to rush on here, to closure with the phantom persons who people the evil empire that threatens us all. Actually, the real demons are *eminences grise*, but let's look at the phantoms first. In a very important book, *Should Trees Have Standing?*,[10] Christopher D. Stone outlines a legal technique for protecting nonsentient nature. Entities such as Storm King Mountain are treated as corporate persons that have rights that lawyers can defend.

What frightens me is that Stone at one point says, in all seriousness and earnestness, that corporate entities "have wills, minds, purposes, and interests that are in very important ways, their own, *i.e.*, that can transcend and survive changes in the consciousness of the individuals who supposedly comprise them, and whom they supposedly serve." This spectre is bad enough, but in going on in further explication of this concept of a legal corporate person, Stone says:

> The legal system does the best it can to maintain the illusion of the reality of the individual human being. Consider, for example, how many constitutional cases, brought in the name of some handy individual, represent a power struggle between institutions — the NAACP and a school board, the Catholic Church and a school board, the ACLU and the Army, and so forth. Are the individual human plaintiffs the real moving causes of these cases — or an afterthought?

Well, here is another quotation, which expresses my response to Stone:

> I regard the corporation as indispensible to modern business enterprises. I am not jealous of its size and might, if you will but abandon at the right points the fatuous, antiquated, and quite unnecessary fiction which treats it as a legal person; if you will but cease to deal with it by means of your law as if it were a single individual not only, but also — what every child may perceive it is not — a responsible individual.

The quotation is from Woodrow Wilson. The context is the corporation. Beyond the lawyer's trick of using the corporate person to defend the conspiring executives of General Electric Corporation from the federal prosecutors, or Storm King Mountain's wilderness from the designing desires of Walt Disney Enterprises, what has all this to do with environmental ethics?

Everything, I am afraid. That is, in the inner worlds of environmental ethics you hear more and more about species and life itself, and less and less about individual self-conscious entities. (You realize that I think that only individual self-conscious entities know or *can* know what the hell is going on.) For example, Garret Hardin in his book *Promethean Ethics* says basically that the individual animal is just a means of preserving the species and so we ought to cull the human herd. That would be done with a system of triage where we with the food help some nations and write off others. As for individuals, we're all going to die anyway, so we ought to quit whining about it and think not what our species can do for us, but what we can do for our species. As far as that goes, species become extinct, so we should not think what life can do for our species, but what our species can do for life.

I have illustrated the point that a considerable amount of what goes on in the inner worlds of environmental ethics is either in ignorance of or in outright defiance of much that has been accomplished in philosophy since the Enlightenment. Ignored are such things as the value and responsibility of self-conscious individual actors, the vacuousness of equating what is good or right with what happens to be or to exist, the arbitrariness (although not necessarily uselessness) of basing rights on the possession of this or that natural feature, the dangers of absolutism, the dangers of irrationalism in religion and mysticism, the inhumanity of true believers, and finally the conclusion based on considerable evidence that the universe, the earth, life itself, species, the church, the state, the family, and McDonnell Douglas Corporation, do not have desires and interests and wills and minds of their own, that corporate entities cannot act, that they cannot have rights except as a legal fiction (not least because there is no way to understand how they could have responsibilities), and — like the gods of Lucretius — they cannot harm us. What can harm us are not the ghosts, but the people in the machines.

"Air pollution . . . will cause either a new glacial age or an interglacial rise in temperature."

I am disturbed, even horrified, by some of the underlying implications of some of the proposals and programs advocated under the general rubric of environmental ethics. It is bad enough to have to watch out for parents who know what the family wants me to do, businessmen who know what the economy wants me to do, presidents who know what the country wants me to do, and popes who know what the church wants me to do; now I have to watch out also for deep ecologists who know what the ecosystem wants me to do. I *am* temperamentally skeptical, but it is not that I think that *all* good causes in the name of institutions are scams designed by identifiable individual persons who benefit from my joining the band. It's just that I'm already slated to die for the good of the human species. What bugs me is that these eco-nuts want me to think that the species — an abstract entity that doesn't know or feel a goddamned thing — is worth it and that I should love my fate. Let me close with some words from Leonard Woolf's autobiography, written when he was eighty:

> "Since the age of sixteen, when for a short time, like all intelligent adolescents, I took the universe too seriously, I have rarely worried myself about its meaning or meaninglessness. But I resent the fact that, as it seems to be practically certain, I shall be as non-existent after my death as I was before my birth. Nothing can be done about it and I cannot truthfully say that my future extinction causes me much fear or pain, but I should like to record my protest against it and against the universe that enacts it."[12] ■

1. Arne Naess. "The Shallow and the Deep, Long-Range Ecology Movement: A Summary." *Inquiry* 16 (1973): p. 95.

2. Richard A. Watson and Philip M. Smith. "The Limit: 500 Million." In *Population: A Clash of Prophets*, edited by Edward Pohlman, pp. 231-241. New York: New American Library, 1973.

3. Tom Regan. "On the Nature and Possibility of an Environmental Ethic." *Environmental Ethics* 3 (1981): pp. 31-32.

4. David W. Ehrenfeld. *The Arrogance of Humanism*, p. 269. New York: Oxford University Press, 1978.

5. Lynn White, Jr. *Machina ex Deo: Essays in the Dynamism of Western Culture*, pp. 75-94. Cambridge, MA: MIT Press, 1968.

6. Peter Singer. *Animal Liberation*. New York: Avon, 1977.

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8. Richard A. Watson. "Self-Consciousness and the Rights of Nonhuman Animals and Nature." *Environmental Ethics* 1 (1979): pp. 95-129.

9. Peter Singer. *Practical Ethics*. New York: Cambridge University Press, 1980.

10. Christopher D. Stone. *Should Trees Have Standing? Towards Legal Rights for Natural Objects*. Los Altos, CA: W. Kaufmann, 1974.

11. Garrett Hardin. *Promethean Ethics: Living with Death, Competition, and Triage*. Seattle: University of Washington Press, 1980.

12. Leonard Woolf. *The Journey, Not the Arrival Matters: An Autobiography of the Years 1939-1969*. New York: Harcourt Brace Jovanovich, 1969.

Environmental Ethics

RICHARD WATSON: *The major journal in this field, and where most of the important papers are published.*

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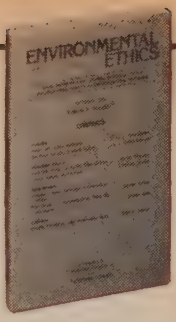
•

The United Nations' Moon Treaty can be criticized since its vague proposal that future space endeavors be governed by a "regime" of terrestrial nations does not clarify questions of civil rights and freedom of choice. Encouragement of self-governing settlements of many kinds on the new frontier of space would provide a needed "pressure release valve" for those discouraged with the large bureaucracies of Earth.

•

I grant . . . that hunting, done in the right way and at the right time can be an important source of value to some human beings. My question, however, is whether the pain, suffering, terror, and death inflicted on the quarry should count for something and whether this suffering is great enough to override the loss of value to humans from prohibiting it. Not to take the interests of other animals into account or not to consider their interests equally with our own is what Singer calls "speciesism." Since Singer, nevertheless, is apparently willing to weigh the survival of the culture of traditional fishermen against the suffering of the fish, is it not also justifiable, in the case of "ethical" sport hunting, to weigh the value of hunting to hunters against the suffering of game animals?



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The Fallacy of Wildlife Conservation

YAAKOV GARB: *Wildlife conservation is a state of being, not a rational argument. Livingston takes a hard look at the usual approaches to conservation and finds them to be tragically destructive because their inherent anthropocentric bias only perpetuates our alienation from nature. He strips away some of the environmental movement's fondest (and most crippling) rationalizations, such as the argument of "wise use." What remains are the outlines of the only motivation that might keep us from destroying the planet's wildlife: a joyous individual experience of participation in the natural world. Livingston is no pedantic philosopher. He writes with the eye of a lifelong naturalist, a poet, and a mystic. This is a book full of provocative ideas.*

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Although the preservation of wildlife is both my bias and my vehicle, this essay is really about the difference between living and being, which is sometimes called "quality of life." It was written in response to a direct challenge. For years I had been uncritically mouthing the conservation catechism; it was time to think it through. What follows is an account of that process.

•

EIA [environmental impact assessment] is a grandiloquent fraud, a hoax, and a con. Others have seen it as both a boondoggle and a subterfuge. It is one of the deceitful co-options of the concepts of ecology and environment of which I spoke earlier. While sanctimoniously reciting the catechism of "environmentalism," it anoints and blesses the process of "development," takes the initiative from the preservationists, and, in most cases, effectively bulldozes, gravels, and hardtops the road for the technomachine. Ecology is thus used as a tool to permit "developers" to continue to do what they have always done. The only difference is that "environmental impact is to be minimized to an acceptable level." What is minimal impact? What is acceptable impact? Acceptable to whom? Wildlife, alas, cannot be interviewed.

•

I can no longer think of a "non-consumptive" use of wildlife. If it is a use, it consumes. The terms are archaic and no longer have meaning; worse, the arguments they imply are destructive of the goal itself. By suggesting that wildlife is "renewable" you sanctify the notion of "management," you confirm and ratify the assumed role of wildlife in the service of man, and you also imply that it *is* in fact being renewed.

•

Now, my point in reporting all of this is not to apply one more layer of mystery (mysticism) to the wildlife experience, but rather to emphasize that when I say that the fate of the sea turtle or the tiger or the gibbon is mine, I mean it. All that is in my universe is not merely mine; it is *me*. And I shall defend myself.

I shall defend myself not only against overt aggression, but also against gratuitous insult.

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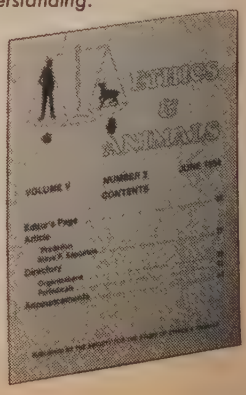


The Resourceful Earth

STEWART BRAND: *Remember* ***Global 2000****? It was the 1980 semi-apocalyptic total environmental impact report generated at the end of the Carter administration, suppressed by his successors, released privately to acclaim. I suspect it was actually read even less than the* ***Pentagon Papers****. Nevertheless, it was good to know that someone had been thinking about all the potential bad news all at once and seeing if it added up or multiplied. Kinda like (remember?) the Club of Rome report* ***The Limits to Growth****. (The* ***Whole Earth Epilog*** *in 1974 summarized that one as: "Collapse. Inarguable.") Later discredited — the analysis didn't notice that prices go up when things get scarce, and substitutes are found or invented.*

The Resourceful Earth *(1984) is a detailed, responsible riposte to* ***Global 2000*** *by similar if disagreeing experts. Are environmentalists intellectually honest? Will as many of them study, or at least refer to, this volume as to* ***Global 2000****? Does a bear sign petitions in the woods?*

•

Two paragraphs summarize the "Major Findings and Conclusions" of *Global 2000* on its page 1:

> If present trends continue, the world in 2000 will be more crowded, more polluted, less stable ecologically, and more vulnerable to disruption than the world we live in now. Serious stresses involving population, resources, and environment are clearly visible ahead. Despite greater material output, the world's people will be poorer in many ways than they are today.
>
> For hundreds of millions of the desperately poor, the outlook for food and other necessities of life will be no better. For many it will be worse. Barring revolutionary advances in technology, life for most people on earth will be more precarious in 2000 than it is now — unless the nations of the world act decisively to alter current trends.

To highlight our differences as avidly as possible, we restate the above summary with our substitutions in italics:

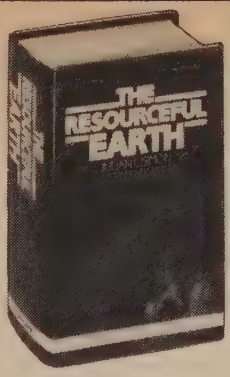
> If present trends continue, the world in 2000 will be *less crowded* (though more populated), *less polluted, more stable ecologically,* and *less vulnerable to resource-supply disruption* than the world we live in now. Stresses involving population, resources, and environment *will be less in the future than now* . . . The world's people will be *richer* in most ways than they are today . . . The outlook for food and other necessities of life will be *better* . . . life for most people on earth will be *less precarious* economically than it is now.

The high points of our findings are as follows:

1) Life expectancy has been rising rapidly throughout the world, a sign of demographic, scientific, and economic success. This fact — at least as dramatic and heartening as any other in human history — must be fundamental in any informed discussion of pollution and nutrition.
2) The birth rate in less developed countries has been falling substantially during the past two decades, from 2.2 percent yearly in 1964-5 to 1.75 percent in 1982-3, probably a result of modernization and of decreasing child mortality, and a sign of increased control by people over their family lives.
3) Many people are still hungry, but the food supply has been improving since at least World War II, as measured by grain prices, production per consumer, and the famine death rate.
4) Trends in world forests are not worrying, though in some places deforestation is troubling.
5) There is no statistical evidence for rapid loss of species in the next two decades. An increased rate of extinction cannot be ruled out if tropical deforestation is severe, but no evidence about linkage has yet been demonstrated.
6) The fish catch, after a pause, has resumed its long upward trend.
7) Land availability will not increasingly constrain world agriculture in coming decades.
8) In the U.S., the trend is toward higher-quality cropland, suffering less from erosion than in the past.
9) The widely-published report of increasingly rapid urbanization of U.S. farmland was based on faulty data.
10) Water does not pose a problem of physical scarcity or disappearance, although the world and U.S. situations do call for better institutional management through more rational systems of property rights.
11) The climate does not show signs of unusual and threatening changes.
12) Mineral resources are becoming less scarce rather than more scarce, affront to common sense though that may be.
13) There is no persuasive reason to believe that the world oil price will rise in coming decades. The price may fall well below what it has been.
14) Compared to coal, nuclear power is no more expensive, and is probably much cheaper, under most circumstances. It is also much cheaper than oil.
15) Nuclear power gives every evidence of costing fewer lives per unit of energy produced than does coal or oil.
16) Solar energy sources (including wind and wave power) are too dilute to compete economically for much of humankind's energy needs, though for specialized uses and certain climates they can make a valuable contribution.
17) Threats of air and water pollution have been vastly overblown; these processes were not well analyzed in *Global 2000*.

We do not say that all is well everywhere, and we do not predict that all will be rosy in the future. Children are hungry and sick; people live out lives of physical or intellectual poverty, and lack of opportunity; war or some new pollution may do us in. *The Resourceful Earth* does show that for most relevant matters we have examined, aggregate global and U.S. *trends* are improving rather than deteriorating.

In addition we do not say that a better future happens *automatically* or *without effort*. It will happen because men and women — sometimes as individuals, sometimes as enterprises working for profit, sometimes as voluntary non-profit making groups, and sometimes as governmental agencies — will address problems with muscle and mind, and will *probably* overcome, as has been usual throughout history.



The Resourceful Earth
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Nuclear America

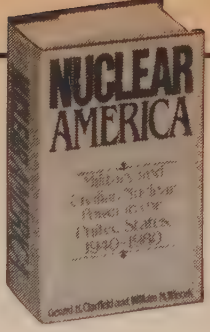
RICHARD NILSEN: *Here is an engagingly written history of one of the biggest stories of the twentieth century — the rise of atomic energy from a physicist's insight to the central tyranny of modern life. The best things about it are that it is a narrative of the whole event instead of just parts of it, and that it is dispassionate. That is not to say these two history professor-authors pull any punches. Their subject was born in the deadly earnest hysteria of World War II, and is so terrifying that it frequently produces more hysteria in reaction to it, leaving a kind of tunnel of denial for the rest of us to numbly slither through. It won't work. This is a hard cold look into the eyes of the monster and it is eerily compelling.*

▪

"Zip" was a special emergency rod that moved vertically through the pile so that gravity would pull it down into a supercritical pile. When Fermi decided to go for criticality, he ordered Zip withdrawn and held above the pile by a rope tied via a pulley to the balcony railing. One of his assistants stood by with an ordinary ax to chop the rope and drop Zip back into the pile if the reaction got out of hand. As a sort of fail-safe precaution, a group of three other scientists, known as the suicide squad, stood on staging above the pile with a bucket of liquid cadmium solution, to dump on the pile in an emergency, flooding it with the neutron absorber. . . . Fermi orchestrated the whole operation behind a bank of dials on the balcony, making calculations with a six-inch pocket slide rule and then checking his predictions against the gauges that were recording neutron activity in the pile. . . . Finally, after lunch, Fermi's slide-rule calculations indicated that criticality was at hand. . . . Fermi, calm and smiling, announced simply, "The reaction is self-sustaining."

•

In 1957, Great Britain detonated its first thermonuclear weapon. In response, a British disarmament group, the Campaign for Nuclear Disarmament, called for a public protest march from London, beginning Good Friday, 1958, to Aldermaston, headquarters of U.K. nuclear weapons research, arriving on Easter. From five to ten thousand people participated, to the chagrin of the British and American governments. It was then that CND adopted the symbol ☮ that became a universal sign of peace in the next decade, formed by the semaphore signalman's positions for N and D: nuclear disarmament.



Nuclear America
(Military and Civilian Nuclear Power in the United States, 1940-1980)
Gerard H. Clarfield and William M. Wiecek
1984; 528 pp.
$20.95
postpaid from:
Harper and Row
Keystone Industrial Park
Scranton, PA 18512
or Whole Earth Access

Alan Turing: The Enigma

naval Enigma chine with its raised to show four rotors.

STEWART BRAND: *A tour-de-force biography of one of the most original and influential minds of the twentieth century. British mathematician Alan Turing was hidden at the very core of events that are some of the brightest and darkest of our age. He was the founder of the successful effort to break the Enigma code of the Nazi High Command during World War II. The "Ultra Secret" led to the victory of the Allies, but its persisting secrecy also helped lead to Turing's bizarre suicide in 1954. Turing was a lifelong homosexual, a poor mix with ultra-secret national interests when his emergency usefulness was over.*

The original hacker, recluse Turing invented the very idea of the computer in a landmark 1936 paper called "Computable Numbers." The turing machine, as it is referred to now in honorary lower case, is the most general purpose and universal and imaginary of computers. The program is the machine (the hardware comes later, necessary but incidental). After the War, Turing set about "building a brain," an electronic computer fast and big enough to play chess, solve unsolved math problems, model intelligence. Postwar bureacracy blocked him, but he kept thinking, devising, and influencing to the end. A computer has yet to pass the "Turing Test" of so convincingly imitating human intelligence that you can't tell whether you're communicating with a person or a machine.

This big book is the most satisfying read I've had this year. The author is a mathematician, a gay activist, and shows a fine structural originality of his own in his approach to the Turing enigma. A life, and a book, full of ideas.

•

"A human mathematician has always undergone an extensive training. This training may be regarded as not unlike putting instruction tables into a machine. One must therefore not expect a machine to do a very great deal of building up of instruction tables on its own. No man adds very much to the body of knowledge. Why should we expect more of a machine? Putting the same point differently, the machine must be allowed to have contact with human beings in order that it may adapt itself to their standards. The game of chess may perhaps be rather suitable for this purpose, as the moves of the opponent will automatically provide this contact."

—Alan Turing

•

Without 'conditional branching', the ability to mechanise the word IF, the grandest calculator would be no more than a glorified adding machine.

▪

The legacy of a total war, and of the capture of a total communication system, could now be turned to the construction of a total machine.

•

[At Bletchley Park during the war] there was the experience of free association with people who were among the best in British mathematics, in a sort of secret university, one in which tradition and form, together with rank, age, degrees and all such superficialities were ignored. All that mattered was the ability to think. And they had [in Turing] a mathematical Flash Gordon, a logical Superboy, to encourage them — someone who refused to admit defeat, or any limitations on their capacities to succeed.

▪

"We do not need to have an infinity of different machines doing different jobs. A single one will suffice. The engineering problem of producing various machines for various jobs is replaced by the office work of 'programming' the universal machine to do these jobs."

—Alan Turing

Alan Turing: The Enigma
Andrew Hodges
1983; 591 pp.
$12.45
postpaid from:
Simon and Schuster
Attn: Mail Order
1230 Avenue
of the Americas
New York, NY 10020
or Whole Earth Access

Son of the Morning Star / In Love and War

STEWART BRAND: *Two pivotal American military defeats examined with exceptional candor — Vietnam, and Custer at the Little Bighorn. Each book has the kind of revelation that keeps echoing and renewing in your mind weeks after you finish reading.*

The author of ***Son of the Morning Star*** *is Evan S. Connell, no less — novelist (**Mrs. Bridge; Mr. Bridge**), historical essayist (**The Long Desire; The White Lantern**), and now historian. No one else has come close to telling the Custer story so well. The Last Stand is a central American myth, a central American mystery. There were no white survivors; the exact anatomy of the fiasco will forever be conjecture. The news of the defeat in 1876 was so unbelievable to whites that for a while rumor insisted that Sitting Bull was actually a renegade white trained at West Point. That there is so much genuine news in Connell's account is a measure of how much Americans have persisted in glossing over, romanticizing, denying the truths of the disaster at the Little Bighorn. You've probably heard that General Custer was the only soldier of the hundreds who was not scalped, "out of respect for his courage." Wrong. It's true he was not scalped, but for a far more poignant, antihistorical reason.*

Apart from its fascinating subject, Connell's book is a new kind of history. It circles its subject kicked loose from time and sequence, approaching the central mystery, then ricocheting off on intriguing tangents, building and building the texture of the plains, the characters, the times, the dusty military life, the grotesque violence on both sides of the Indian wars. America has had two civil wars; this lesser-known one may haunt us deeper.

Vietnam was someone else's civil war. ***In Love and War*** *is about, and by, an individual in the very middle of it — Navy Commander Jim Stockdale, senior American P.O.W. for over seven years, later winner of the Congressional Medal of Honor for his conduct in Hanoi prisons. The book opens with his shocking account of what really happened in the Tonkin Gulf Incident that led to the Resolution that empowered LBJ to start the war. Stockdale was the pilot of the Crusader fighter that took part in the battle. There was no battle; it was all a farcical mistake. When he was shot down and captured a few months later he had a major secret to keep from the astute North Vietnamese propagandists.*

Torture was the coin of transaction with the P.O.W.s. News to me: everyone breaks. The prisoners called it the Rope Trick. With it the torturers can get you to tell anything they know you know about. The book is full of news like that, harsh facts cutting at harsh angles to all politically correct perspectives.

This is one of the all-time prison books. The means the prisoners devised to communicate in the face of total enforced silence and solitary confinement in leg irons, the character they found to persist in the face of unending uncertainty and erosion of body and soul is inspiring stuff.

It is THE all-time propaganda-war book. Stockdale was being ground fine at the very point of leverage for both sides. Meanwhile his wife, author of alternating chapters in the book, was going through a severe reversal of behavior for a good military wife. They told her to keep quiet. After a couple years she decided her government was out to lunch on that one and led the organization of P.O.W. wives that reversed U.S. policy about the prisoners.

The North Vietnamese won, but so did Stockdale. These days he's teaching philosophy at Stanford. I'd take his class in a minute.

•

Black Elk himself scalped a soldier who was still alive. It was hard work because the soldier's hair was short and the knife was dull. The soldier ground his teeth and made such a fuss that Black Elk had to shoot him in the head. After finishing the job he wanted his mother to know about the scalp so he rode over to a crowd of women and children who had gathered on a hill to watch the fight, and when his mother saw the trophy she uttered a shrill tremolo in his honor.

—*Son of the Morning Star*

•

During the summer of 1928 a Crow named High Medicine Rock found a skeleton southeast of the battlefield with a slender iron arrowhead embedded in the neck vertebrae. The bones lay in a gully where they had been covered and uncovered season after season by wind, rain, and snow for half a century, so not much was left — fragments of cloth, a rotted leather gun scabbard. Nineteen empty shells and one loaded cartridge proved that he fought for life. Lt. Harrington had worn white canvas trousers and a blue blouse, but there was not enough of this cloth to indicate whether it might have been his uniform. Because no positive identification could be made, the skeleton was buried in the battlefield cemetery and marked *Unknown*. Whoever he was, he almost got away. —*Son of the Morning Star*

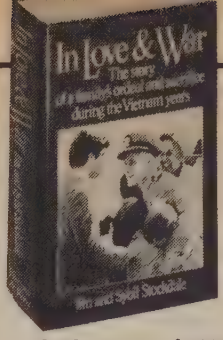
•

Little Scruffy held my arms back while Pigeye went for the bar, his eyes searching over my shoulder for a signal as to whether to connect my legs to it or not. Sure enough, off came the lugs, and my wobbly crippled leg got stuffed into a lug and onto that bar. My legs spread-eagled and extended, I facing the closed doors, Pigeye went to work on reeving the manila hemp rope about my upper arms in some complicated pattern he obviously had well in mind. With a crescendo of shouting by all, I could feel his foot in my back as he pulled my arms and shoulders together in jerks. I cried out about my left arm and shoulder — the former unable to be raised and the latter broken in ejection and painful — but the ropes continued to tighten by jerks. As my shoulders compressed, I heard shouts of "Down! down!" and Pigeye's arm pressure on my back bent me forward at the waist . . .

I suddenly realized that I was listening to Rabbit's fading voice at what seemed like a distant location. "Do you submit? Are you ready to comply?"

"Yes, I submit, I submit," I murmured.

—*In Love and War*

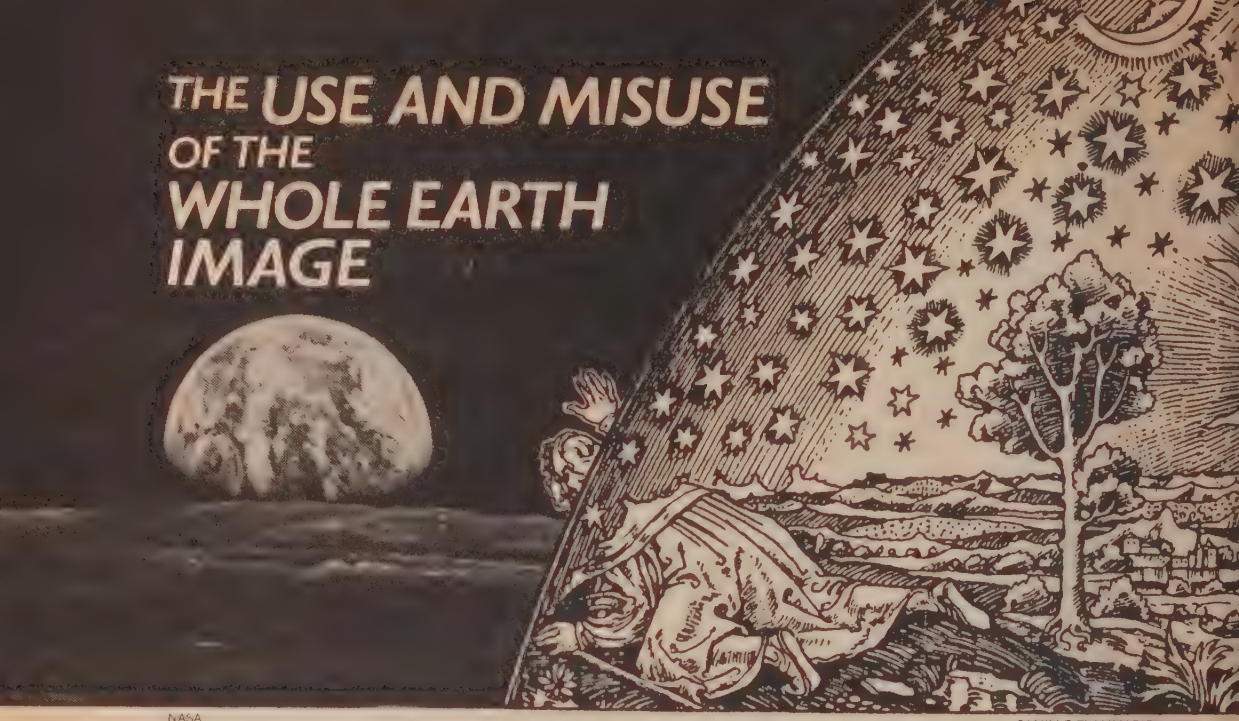


Son of the Morning Star
(Custer and the Little Bighorn)
Evan S. Connell
1984; 443 pp.
$21
postpaid from:
North Point Press
850 Talbot Avenue
Berkeley, CA 94706
or Whole Earth Access

In Love and War
(The Story of a Family's Ordeal and Sacrifice During the Vietnam Years)
Jim and Sybil Stockdale
1984; 480 pp.
$19.95
postpaid from:
Harper and Row
Keystone Industrial Park
Scranton, PA 18512
or Whole Earth Access

The photo of Jim Stockdale which appeared in the San Diego *Union*, May 2, 1966.

THE USE AND MISUSE OF THE WHOLE EARTH IMAGE



NASA

CAMILLE FLAMMARION, 1888

by Yaakov Jerome Garb

"Metaphors may create realities for us . . . A metaphor may thus be a guide for future action. Such actions will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. In this sense metaphors can be self-fulfilling prophecies.

" . . . the way we think, what we experience, and what we do every day is very much a matter of metaphor."
— George Lakhoff

A totem, as the Cree Indians named it, is an ally. As an ally the image of the whole Earth has served well, and seems to have enough medicine left in it to continue as our cover totem.

"Psssssst," said an accented stranger in our office, "would you like to see my picture collection?"

Sure. So we stood transfixed as he flipped through an album of battered whole Earth images, a selection of which is reproduced here. Evidences of our totem defiled?

The curator of this exhibit is iconoclast Yaakov Garb, born in South Africa, raised in Jerusalem, and recently graduated at World College West, Novato, CA, with something like this article as his thesis. He asks, "which department of a university should I apply to, to continue this type of research?" Good question. —Kevin Kelly

A METAPHOR is a way of describing one entity in terms of another. The image of the whole Earth — proudly displayed on the front cover banner of this magazine — is our culture's current metaphor for the Earth. This photographic image is not the reality of the whole Earth, but only one possible interpretation of it.

The whole Earth image implies and graphically demonstrates the beauty, finiteness, fragility, and interconnected unity of the Earth. It is an image which has been said to herald the coming of a new age, to "etch into human consciousness the concept that we are all one family, living in the same house" (Communications Era Task Force), to show the Earth as a precious "oasis in the desert of infinite space" (Joseph Campbell), and to encourage the sense of care and belonging that our planet merits. The image is regarded as a paragon of environmental education, and used without hesitation to convey some of the environmental movement's worthiest goals.

This article discusses those qualities of the whole Earth image which most environmentalists *do not* seem to be aware of, and the ways in which this image is being used to cultivate attitudes that are *destroying* the Earth. For this banner of perspective and insight is also — just below the surface — a banner of alienation and escape from the Earth.

EARTHSCAPE: THE EARTH AS LANDSCAPE

The concept of "landscape" as a way of relating to the environment is recent in human history. The urge and willingness to stand back from a viewed object in order to gain the perspective of the horizontal vista which we call landscape has not always existed, and neither have the technical capabilities necessary to depict such a viewpoint always been available. It is only in Europe of the fourteenth and fifteenth centuries that we begin to see much evidence of this relationship towards portions of the Earth in the physical sciences, literature, landscape painting, architecture, and the principles of garden design.

The horizontal extension of a landscape view is fraught with far-reaching implications. When we step back to get a "better view" we create not only physical distance but a corresponding psychic aloofness. The landscape perspective gives rise to (or is symptomatic of) a sense of detachment and spectatorship; it renders the area viewed into an object, a "scene," a tableau. When we look at a "landscape" we are disengaged *observers of* rather than *participants in* the reality depicted. Thus, the rise of the landscape perspective is associated with a significant transformation of our "world view" in a figurative as well as a literal sense. It is a transformation which is now so complete that it is difficult for us to imagine alternative ways of seeing.

If the landscape perspective leads to alienation, then the supreme landscape — the whole Earth image — leads to extreme alienation from the Earth.

"After Sputnik there is no nature, only art." — Marshall McLuhan

LEAVING THE CATHEDRAL

We were once surrounded by our world, experiencing it with all of our senses and participating in it with devout attention to its details.

But we have left the cathedral.

We have obtained the privileged viewpoint for our cameras, a place from which all features can be seen. From thousands of miles away, this perspective relies on sight alone to inform us of the Earth's reality: "Sight is the only sense that offers detachment" (Edmund Carpenter). This view of the Earth *from the outside* is a perspective which will lessen our sense of the Earth's bulk, verticality, details, and perhaps . . . its holiness.

"The vertical cosmos of medieval man is dramatically symbolized by pointed arches, towers, and spires that soar. The Gothic cathedral baffles modern man. A tourist with his camera may be impressed by the beauty of the nave with its aisles, transepts, radiating chapels, and the span of the vaults. Should he seek a position to set up his camera, he will find that there is no privileged position from which all these features may be seen. To see a Gothic interior properly one has to move about and turn one's head. Outside the cathedral the modern tourist may be able to get a good picture of the total structure from a distance. But in medieval times this was seldom possible. Other buildings clustered around the edifice and blocked the distant view. Moreover, to see the cathedral from a distance would diminish its impact of bulk and verticality. The details of its facade would no longer be visible. The medieval cathedral was meant to be experienced; it was a dense text to be read with devout attention and not an architectural form to be merely seen." —Yi-Fu Tuan

THE ETHEREAL VS. THE INCARNATE

The Judeo-Christian concept of divinity, an ideology of duality and opposition, replaced primitive pagan perceptions that the divine is inherent in every particle of the universe. For the desert fathers who founded monotheism, the gods of the rain, the trees, and the hills were replaced by a God who was "out there," distant from the world. Spirit became separable from the world of matter and natural phenomena. As this novel perception became increasingly entrenched over the centuries, monotheism was victorious in emphasizing the world of spirit at the expense of attunement with the world's material processes.

The whole Earth image and the space technology which enabled it are apt symbols of this victory. Through it the pulsing, detailed vitality of terrestrial life fades away, to be replaced by a static abstraction of an Earth. In the whole Earth image, the viewpoint of the observer — an important aspect in any cosmographic image — is no longer on Earth. The center of our world has moved out into space. When God is no longer felt to reside on Earth, and is no longer manifest in its natural processes, is it not natural for us to follow?

" . . . man acquires a soul distinct from his body, and a superorganic culture which perpetuates the revolt against organic dependence on the mother." —Norman O. Brown

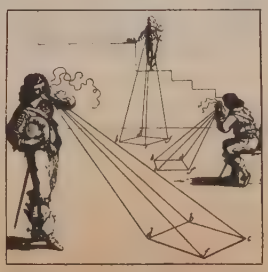
No wonder our culture is so enthralled by the "God's-eye view" which NASA has given us.

"From its orbit 900 kilometers above Earth, Landsat had a magnificent perspective, which scientists sometimes called a 'God's-eye view'." —NASA

EXTRATERRESTRIALISM

The extraterrestrial motif is currently rampant in popular American culture. Science fiction, movies, video games, and advertising media all conjure up a plethora of images which spurn Earthly habitation in the pursuit of fantastic otherworldly futures.

These images link distant space and the stars with newness, adventure,



"In bioregional thought the homeplace is sacred. In western culture it is the place "to get away from"; the homeplace . . . is boring." —*Marnie Muller*

"Beam me up, Scotty, this planet sucks!" —*Bumper sticker*

"Since Sputnik . . . the Earth is an old nose cone." —*Marshall McLuhan*

The human mind and the magical powers of technology enable us to escape the confines of the Earth and to move outwards into the larger realities that await us in space.

and a glamorous high-tech future "out there." The Earth is discarded in this process, a worn and spent relic from humanity's childhood which can be trashed as we move on.

Not surprisingly, the whole Earth image lends itself well to the extraterrestrial enterprise, and is often used in this context, becoming a rearward view of a distant and abandoned Earth.

The subliminal effects of this imagery are worrying: It fosters false illusions of detachment and independence from an Earth on which we are still inextricably and crucially dependent; it lessens anxiety about our destruction of *this* Earth, with false promises of somewhere else to go; it seeks for the Ultimate out in space rather than in the Immediate: here on Earth.

The movement away from Earth and out into space is portrayed as the cutting edge of man's (here literally, white corporate male) evolution. Through the powers of science he has transcended his primordial birthplace, animalistic roots, and primitive Earthbound existence as he moves upwards and outwards into an extraterrestrial future.

HOMELESS IN INFINITUDE

An accompaniment to our extraterrestrial yearning is that we now perceive ourselves as homeless wanderers in an infinite universe. The Earth was once unquestionably our home, our only center. Today our culture has no center, and it views the Earth from the distant perspective of the whole Earth image. Our technology enables us to speedily be anyplace on Earth and — through the space photographs — to see any place on Earth and even beyond. But our technological omnipresence has diluted our human presence everywhere; being everywhere we are nowhere.

Though the whole Earth image emphasizes the unity and interconnectedness of all places on the distant Earth, it homogenizes all specific places, and deemphasizes the importance of having an intimate knowledge, bonding, and loyalty to a specific locality. The whole Earth poster decorating the wall of a Manhattan apartment is no substitute for a true belonging to place. Living in place — the level of connected-

ness to place that is such an essential component of a sound environmental attitude — was the norm for ancient and primitive cultures. But this is fast being replaced by the alienation and escape from place that we see expressed in our culture's use of the whole Earth image.

The "at-homeness" and belonging that premodern cultures felt towards the Earth was accompanied by their sense of living in a closed universe. Their cosmologies contained reassuring images of familiar finiteness: overturned cauldrons, roofs, tents, half-eggshells, etc. Even the medieval cosmos, though huge, was finite. Today our image of the Earth is different, and we have no such assurances; "to look out on the night with modern eyes . . . is to survey a sea that fades away into the mist." —Yi-Fu Tuan

"But how have we done this? How were we able to drink up the sea? Who gave us the sponge to wipe away the entire horizon? What did we do when we unchained this Earth from its sun? Whither is it moving now? Whither are we moving now? Away from all suns? Are we not plunging continually? Backward, sideward, forward, in all directions? Is there any up or down left? Are we not straying as through an infinite nothing? Do we not feel the breath of empty space? Has it not become colder?"

—Friedrich Nietzsche

THE FLAT EARTH

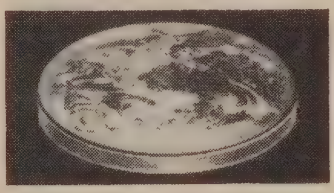
When the first photographs of the whole Earth came back from space, we had — at last — visual proof that the Earth is not flat.

Yet, ironically, the production of the whole Earth image is another important contribution to the flattening of the Earth.

This flattening is both literal and figurative. In the literal sense, the three-dimensionality of our world loses its importance as we move away from it into the distance. As an example of this, contrast the world of the whole Earth image — with millions of square miles spread out on the page before us — with the world of the bushman, whose entire world was contained in a few hundred square miles. But although the bushman's world was geographically limited, this was compensated for by a vertical spaciousness and complexity. This was true for most primitive cultures, as is evidenced by their cosmologies which abound in images demonstrating a highly complex vertical dimension: the multistoried worlds of Siberia and Central Asia, with their three basic levels of sky, Earth, and the underworld linked together along a central axis; Altaic folk-poetry speaks of the sky as made up, variously, of three, seven, nine, or twelve hemispheres, one on top of another; for the Yakuts, the heavens are a succession of highly stretched skins. Contrast these pre-modern worlds and their emphasized vertical axes with the whole Earth image, where the horizontal axis is vastly extended, and the vertical nonexistent.

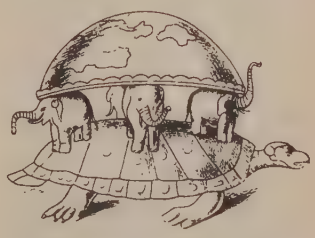
The Earth has also been flattened in a figurative sense, as the multi-dimensional elements of myth and spirit were removed. When we strive for rational understanding and literalness only, when Reason replaces Poetry and Logic becomes ascendent over Mythology, when we inhabit a world of "things" rather than living entities, the Earth loses its enchantment — becoming featureless and flat.

Mapmaking is one technology whose *goal* is to "remove the possibility of multiple readings," to replace the unknown, the subjective, and the ambiguous with explicit and objective knowledge — to flatten. The whole Earth photographs represent a crucial milestone in the mapmaker's quest: they make possible a literal, unambiguous, two-dimensional representation of the entire planet. Today, our images of the Earth are no longer derived from personal, participatory experience, nor formed, even, through direct contact with the rich language of poetry and myth. Instead, our predominant image of the Earth is the whole Earth image, captured by machines, and brought to us from the great distances of dead space by an extremely sophisticated technology to which very few have direct access. It is a literal image, a scientifically "accurate" image, an objective and "useful" image of the Earth. But it is also facile and flat, an impoverished image that symbolizes and perpetuates an impoverished world view. ►



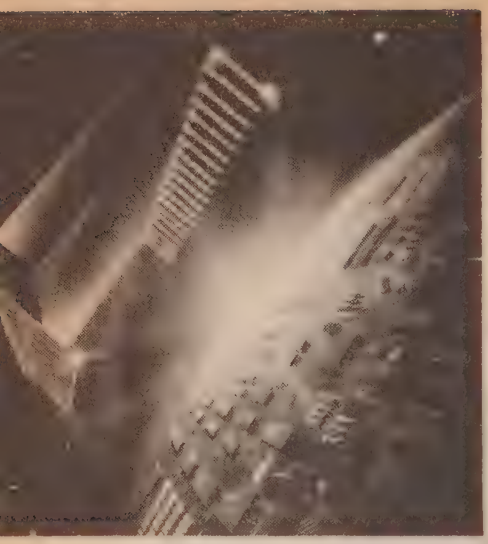
"Twenty-five hundred years after Pythagoras declared our planet round, two thousand years after Erastothenes deduced its radius, four hundred years after Magellan circumnavigated its waters, ten years after the first orbiting cosmonaut, an Apollo astronaut blotted out its blue-green ball with a thumb at arm's length; twentieth-century man inhabits — emotionally, intellectually, spiritually, cognitively — a flat earth, floating aimlessly through a flattened cosmos." — Philip Zaleski

"At Dana Butte, on untrodden ground that hot afternoon in June, we sensed the beginnings of wonder and of cartography. We came away knowing the ageless compulsion to reach out and, through mapping's ever-widening embrace of worlds, to reduce wonder to a scale more susceptible of human comprehension." —John Wilford



"The cosmos of premodern man was multi-storied; nature was rich in symbols, its objects could be read at many levels and evoke emotion-laden response. Science by contrast strives to remove the possibility of multiple readings. A traditional world has the ambiguity and richness of ordinary and ritual speech. The modern world, on the other hand, aspires to be transparent and literal."

—Yi-Fu Tuan



You ask me to plough the ground! Shall I take a knife and tear my mother's breast? Then when I die she will not take me to her bosom to rest.

You ask me to dig for stone! Shall I dig under her skin for her bones? Then when I die I cannot enter her body to be born again.

You ask me to cut grass and make hay and sell it, and be rich like white men! But how dare I cut off my mother's hair?
—Smohalla, Columbia Basin Indian quoted by Carolyn Merchant

"The fundamental difference between the attitudes of modern and ancient man as regards the surrounding world is this: for modern, scientific man the phenomenal world is primarily an 'It'; for ancient man — and also for primitive man — it is a 'Thou'."
—Henri Frankfort

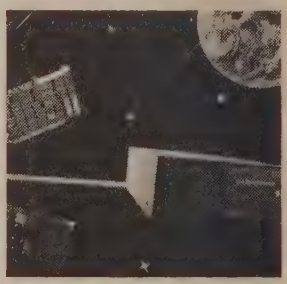
DEATH OF NATURE

For most people prior to the sixteenth century a "living Earth" was not just a literary analogy or a quaint fable; it was a felt and vital reality. Earth and nature were once perceived as a nurturing mother — sensitive, alive, and responsive to human actions. Imagery of the Earth from this period portrayed a living Earth and served an extremely important function by restraining attitudes of control, conquest, and exploitation towards the Earth.

As the Scientific Revolution progressed, however, attitudes and images relating to the Earth began to change. The Earth came to be regarded increasingly as a mechanical system. This transformation had enormous significance, for as the organic imagery began to crumble it took with it all the subtle ethical controls and restraints that had existed for most of human history.

Our culture lives in the aftermath of this momentous transformation; our image of the Earth is the whole Earth image — the Earth as object. We no longer inhabit a living Earth and we behave accordingly.

In the images below, the Earth is but one "it" among other artifactual



and mechanical "its." Contrast these to the vital organic imagery evident in the themes of pre-modern myths from the South Pacific.

Earth rests on breasts of great female eel. (Truk)
Ocean made from blood. (Papua)
Ocean from creator's sweat. (Tahiti, Tonga)
Ocean from urine. (New Hebrides)
Origin of sea: from rotting snakes. (Solomons)
Tide caused by breathing of sea monster. (New Zealand)
Earth rests on animal's back. (New Zealand, Samoa)
Earth rests on turtle's back. (Ellice Island)
Earth supported by fish. (Marquesas)
Springs originate from tears. (Rotuma)

Nut, the Egyptian sky goddess.

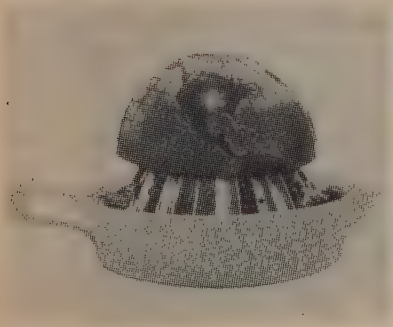
CONTROL AND CONQUEST

It is of great advantage for a would-be conqueror to be able to surround a territory, to know and to map it. The history of mapmaking has always been intimately connected with military purposes, and in some respects the space photographs of the Earth are a continuation of this mapmaking trend, except that now modern culture is engaged in battle not only with human enemies but also, as Dasmann says, with the Earth itself.

Imagine the popular posters that might be designed as propaganda by the commanders of a war against the Earth — posters that would show complete mastery and control of the enemy. Would these look much different from the images we now see at any newsstand?

"The Third World War has begun; it is the war against the Earth."
—Raymond Dasmann quoted by Wes Jackson

"The administrators and rulers of countries . . . became aware that it was impossible to govern (or fight wars) without adequate maps of the land."
—Arthur Robinson

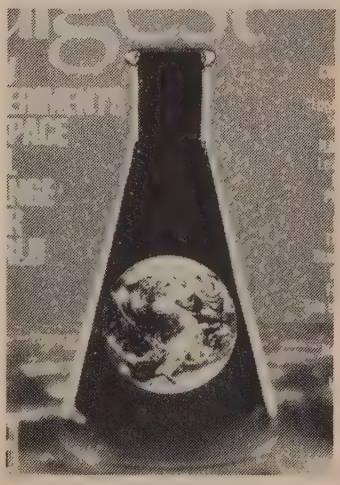


A conquering colossus astride his spoils. (Here, as in most media images of the conquest, control, or escape from the Earth, the central figure is white and male.)

THE EARTH ENCOMPASSED AND CONTAINED

In some aspects it can be said that humans encompass the Earth: we are able to circumnavigate it rapidly, to communicate across it almost instantaneously, and — through the photographs from space — to see it all at once: to encompass it visually.

But popular media images leap far beyond this limited sense of encom-

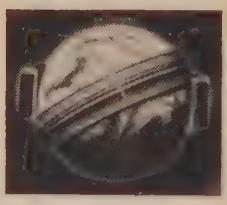


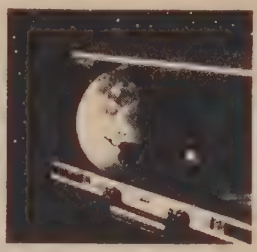
"At last man has the reach by which he can truly encompass the world.

Four hundred and eighty pictures in 24 hours girdle the globe." —NASA

passing, and present us with the fantasy our culture yearns for: total human encirclement of the Earth.

The whole Earth image has reduced the Earth to an object that is of graspable size and complete visual accessibility. Thus, it lends itself well to the expression of another modern fantasy: that humans and their technologies contain the Earth, rather than being contained by it.





"A blue and white Christmas ornament"
—Astronaut Russell Schweikart

By contrasting these arrogant whole Earth fantasies with premodern imagery of the Earth, we can begin to realize the enormity of the change that has taken place in the relationship of humans to the Earth.

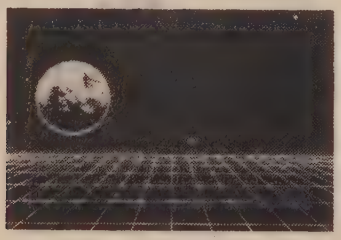
THE TOKEN EARTH AND ITS TRIVIALIZATION

The whole Earth image is a small, comprehensible, two-dimensional image of the Earth, a manageable token used to represent a reality that is unfathomably immense and complex. But myriad aspects of the Earth are nullified by replacing it with this token, whose ubiquitous and mechanical repetition tends to make us forgetful of the reality it is supposed to designate. Thus, this small image allows, and perhaps encourages, a trivialization of the Earth.

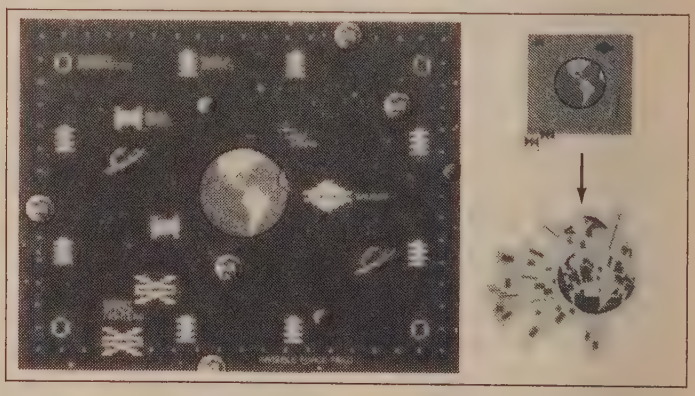
Take for example the computer game ASTROCHASE in which the little Earth-token is destroyed if the player loses the game (see below).

But have no fear, all can be restored by pressing the "reset" button. (How will the subliminal persistence of such images affect the decision-making of future leaders?)

Or (see left) this image of the Earth as a plaything.



Bishop Burnet, who died in 1715, was disturbed by the unsymmetrical arrangement of the stars: "What a beautiful hemisphere they would have made," he exclaimed, "if they had been placed in rank and order; if they had all been disposed in regular figures . . . all finished and made up into one fair piece, or great composition, according to the rules of art and symmetry."
—Edmund Carpenter



CARTESIAN FANTASIES

The unknowns of the natural world and its unpredictability can be threatening. It is understandable, then, why people might strive to impose a rational, predictable, human order onto this world of otherness, in an attempt to render it safe, known — under control.

The qualities of the whole Earth image which I have discussed make it

most useful in this quest for a more orderly Earth, as demonstrated by a slew of images in the popular media. A recurring image is the Earth mapped out into a precise grid — transformed into a barren Cartesian monolith. The drive to do this is symptomatic of our culture's profound estrangement from the realities of organic life on Earth; it is a denial of the ambiguity, the flux, the complex patterns of non-linear and multi-dimensional interconnectedness — the sheer vital messiness — of a corporeal existence.

Icon:
1) An image or pictorial representation.
2) An object of uncritical devotion.
From Webster's New Collegiate Dictionary

Although the whole Earth image can convey some powerful insights about our planet, it is also, as we have seen, a limited image of the Earth. As a machine-made representation of a small, external, distant, static object, the whole Earth image is not a suitable symbol for a whole and mutual relationship between humans and the Earth. The image's inherent flaws are further compounded by its ubiquitous and destructive misuse by popular culture.

This iconoclastic analysis of the image raises a series of iconoclastic questions:

- How can such a questionable image be so blithely adopted by so many environmentalists as their representative emblem?
- Is the insensitivity of these environmentalists towards this particular image indicative of a general naivete regarding the power of imagery to define our relationship with the Earth and nature? Does it imply an insufficient awareness, on their part, of the depth to which our culture's environmental problems and attitudes are rooted in levels of the psyche where imagery, myth, magical thinking, and primal emotion hold sway over rational thinking and conceptualization?
- Do these environmentalists not fully realize that the paradigms of perception and belief which govern a culture's relationship with the Earth are largely unconscious and pre-verbal, that — considered in a historical and cross-cultural perspective — these paradigms of our own culture are disturbingly anomalous, and that the whole Earth image is a quintessential embodiment of these anomalous modern paradigms?
- To what extent are the environmentalists who unhesitatingly use this image *themselves* embedded in these very paradigms from which environmentally destructive behavior flows?

The whole Earth image can provide a unique window into the unconscious of our culture, and by doing so expose the deeper levels of work which must be done by those who would heal the rift between humans and the Earth. This work should address the preverbal paradigms held by our culture, and also those held by ourselves as environmentalists. I invite you to examine the metaphors we use in relating to the Earth, like "spaceship Earth," and to consider alternative images to describe the Earth. Whether it is Gaia, a mother, an island, a flag with a hole in it enabling "whatever is" to be seen (Chomba Love), or something else, the search for an appropriate image for the Earth will transform our relationship with her. ■

I am grateful to Zoe Sofia, discoverer of the extraterrestrial motif, and to all those whose ideas and encouragement contributed to this work.

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Getaway Special

by Robert Horvitz

EVEN BEFORE the first Space Shuttle had been built, NASA realized that most payloads wouldn't completely fill the Shuttle's cargo bay, so they decided to make some of this leftover space available at relatively low cost for small experimental payloads. The Getaway Special (GAS) program is open to individuals and groups from any country. A non-refundable deposit of $500 gets you a reservation, then you have up to 18 months to develop your payload and sign a launch agreement with NASA. Launch opportunities are filled on a first-come/first-served basis. When more payloads are ready to fly than the Shuttle can carry, those with the earliest reservations have priority. As of mid-September, 21 GAS payloads have flown; reservations for over 400 more are on file.

The rules governing the GAS program are still evolving, but the primary concerns are protecting the safety of the Shuttle, its crew, and other payloads, and preventing merely commercial exploitation (like sending up a bag of trinkets to sell as collectors' items). GAS payloads must fit completely inside cylindrical containers provided by NASA. These come in two sizes: 19.75 inches inside diameter by 14.13 inches (2.5 cubic feet); and 19.75 inches diameter by 28.25 inches (5 cubic feet). Three types of lid are available: insulated opaque; uninsulated with a window; and opaque motorized (openable). The first lid type comes with the container, free of charge; the latter two are extra-cost options.

The fare for payloads weighing less than 60 pounds that fit in the smaller GAS can is $3000; for 60- to 100-pound loads in the smaller can, $5000; for payloads of up to 200 pounds in the larger can, $10,000. The $500 deposit is a down payment deductible from the fare.

So who's signing up for Getaway Specials? High school science classes, foreign governments, Boy Scout troops, major corporations, artists, scientists, filmmakers, grad students, you name it. Contests have been held in Europe, Japan, Canada, and the U.S. to gather payload ideas from the public. The *Asahi Shimbun*, Japan's leading newspaper, launched a device for observing the growth of artificial snow crystals in near-zero gravity (turns out they form faceted spheres instead of lacy hexagons). A team of scientists from NASA and IBM is using the GAS program to study the effect of cosmic rays on solid state microcircuits. Artist Joe Davis plans to launch a powerful electron gun to try to create an artificial aurora visible from the Earth.

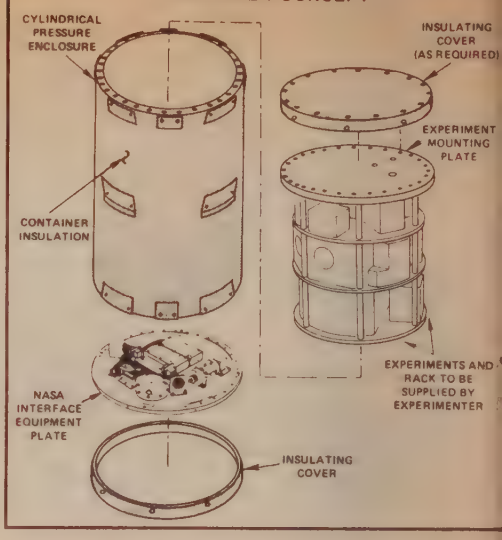
One of the most exciting aspects of the program is that it's creating a whole new community of space experimenters. And as the program matures, equipment devised for one payload is increasingly being marketed as a ready-made for use by others, so a whole new support industry is growing, too.

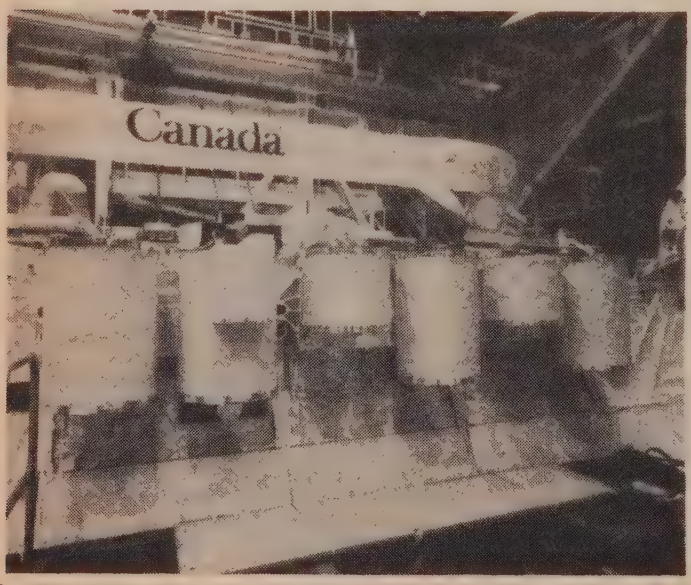
In January, a team from Utah State University hopes to eject a satellite from a GAS canister. If they succeed, the range of possible projects will be greatly enlarged, and a new way to put small satellites into low Earth orbit at a fraction of the cost of other methods will become available.

For more information about the Getaway Special Program, write: Ms. Donna S. Miller, Code MC-7, NASA Headquarters, Washington, DC 20546. ■

GET AWAY SPECIAL SMALL SELF-CONTAINED PAYLOADS

CONTAINER CONCEPT





NASA

Left side of the shuttle Challenger before Mission 7 shows six Getaway Special payload canisters mounted to the shuttle bay below the Canadian Spar Aerospace, Ltd. manipulator arm.

Grow Your Own Energy

J. BALDWIN: Despite public apathy resulting from the recent "oil glut," scientists are still hard at work trying to figure out the best strategies for replacing fossil fuels. "Biomass" is an attractive, though complex, candidate. This collection of papers from the ever-excellent ***New Scientist*** *magazine looks at the biomass alternative from every standpoint currently under discussion, including the position against the idea. The book as a whole is done in the informative-but-informal manner that makes its parent magazine so useful. In one easy read, you'll probably learn more about biomass than anyone else you know.*

[Suggested by Bryan Johnson]

Grow Your Own Energy
Michael Cross, Editor
1984; 255 pp.
$10.45
postpaid from:
Basil Blackwell, Inc.
c/o Harper and Row
2350 Virginia Avenue
Hagerstown, MD 21740
or Whole Earth Access

Papyrus plants near Lake Naivasha, Kenya →

■

Initial attempts to produce briquettes from papyrus are being carried out in Rwanda; the briquettes will supply its capital, Kigali. Large areas of swamp (more than 5000 ha) lie within 40 km of Kigali, which reduces the cost of transport, one of the main determinants of cost of fuels. The papyrus will be cut by hand as the swamps are accessible for at least 7 months of the year, when the water levels are low. The papyrus will then be dried and compressed into briquettes at the edge of the swamp.

■

Sunflower oil and peanut oil, for example, release something like 90 per cent of the energy released by conventional diesel oil. However, the fuel efficiency of these oils is only about 4 percent less than that of diesel, and if the "crude" vegetable oil is processed these vegetable oils can actually out-perform diesel oil . . . There is no point in growing plants to produce vegetable oil for fuel if 2 litres of premium fuel are consumed in the process of "growing" 1 litre of oil. Here the key factor is the productivity — how much oil can farmers produce on a hectare of land — and the cost and ease of production.

●

Despite its renewability, wood, like all biomass fuels, can be produced on a large scale only by diverting land from other uses. For example, the land needed to produce material for alcohol to keep one motor car on the road might otherwise feed 8-16 people. Current "gasohol" production in the US is fed by withholding exportable grain and the world's largest producer of fuel alcohol, Brazil, is also the world's largest importer of grain.

The Book of Bamboo

KEVIN KELLY: *The world's most used — and underused — plant, bar none. Bamboo built civilization in Asia, Africa, and Central America. It's "every single thing plastic isn't" (review of* ***Bamboo, NWEC*** *p. 287). "Everything that plastic is now becoming" might be closer to the truth; bamboo works so well because it's really, as a Japanese scientist would say, best fiber grass made.*

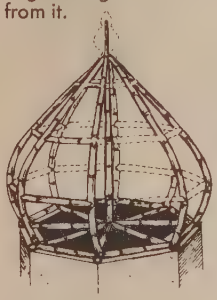
This book is the consummate guide to bamboo utility — as food, as tools, as shelter, as landscape, and as a grove of inspiration. Every known use of bamboo is presented with as much practical information as possible. For identification about 170 species are described in botanical detail. In half of the U.S. some of them will grow in your backyard. It's thickly illustrated too.

■

Flutes came before people. The wind made them and played them. One culm leaning on another rubbed holes the weather whispered through; birds pursuing bugs or building nests drilled other notes in other internodes. Long afterwards, the human race came wandering down the path of spontaneous mutation and built their villages beside the groves. Bamboo moaning in the windy midnight made melodies that seemed played by spirit fingers, strange lips, a ghost orchestra of ancestors come to mumble down the long tube of dreams.

●

Much of contemporary Western technology imitates bamboo's shrewdly composite design. Combining tensile fiber and compressive filler is the structural design of "two-phase" materials such as fiberglass and reinforced concrete. Contemporary skeletons of steel are also heirs to millennia of bamboo engineering. The bamboo ancestor of the Brooklyn Bridge spans 750 feet over the River Min in Szechuan, China. So bamboo anatomy is reflected in new materials, and traditional bamboo engineering in modern structures historically descended from it.



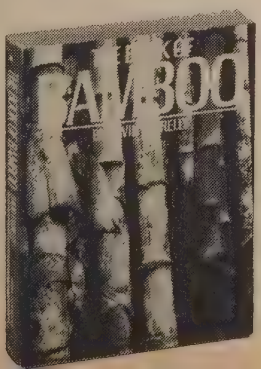
Taj Mahal. The cupola of Hindu and Buddhist temples and the dome of the Taj Mahal are examples of early bamboo architectural explorations finding expression centuries later in the more permanent medium of masonry.

Bamboo cultivation extends north of Vancouver, B.C., on the Pacific Coast.

●

Fairchild's advice — to control bamboo's spread by eating it — has probably never occurred to most people who have a problem with excessive growth in a small urban garden, but shoots of almost any bamboo can be eaten. The principle genera used for sprouts include *Arundinaria, Bambusa, Dendrocalamus,* and *Phyllostachys*. . . . The bitterness of some bamboo sprouts is removed by boiling in two or even three changes of water.

The Book of Bamboo
David Farrelly
1984; 347 pp.
$17.45
postpaid from:
Sierra Club
1142 West Indian School Road
Phoenix, AZ 85013
or Whole Earth Access



RIGHT ANGLE LASHING. This begins and ends with a clove hitch.

The Fine Art of Recreating Meadows

by Steve Sorensen

Some people thought I was just another government boondoggler, and I suppose I can see why they would think that: In five years I spent thousands of federal tax dollars trying to undo what it took thousands of federal tax dollars to do. I was totally unqualified for my job, and was an admitted failure at it. My goal was to have absolutely nothing to show for my work, and when I started to get fairly good at my job, I quit. Now that I have moved on to another line of work, I feel an obligation to explain what it was I was doing all those years.

In 1969 I was a college English major, and all I really wanted to do was hang around the student union and be seen reading books of poetry by poets so obscure not even other poets had heard of them. The only thing I knew about wilderness was that John the Baptist was once heard crying there. The only reason I applied for a job with the National Park Service was so the government wouldn't take away my unemployment checks. Gary Snyder's "Bubbs Creek Haircut" was my favorite poem, and when Sequoia-Kings Canyon National Park called me up to offer me a job as a laborer on a backcountry trail crew, I figured there had to be worse ways to make a living.

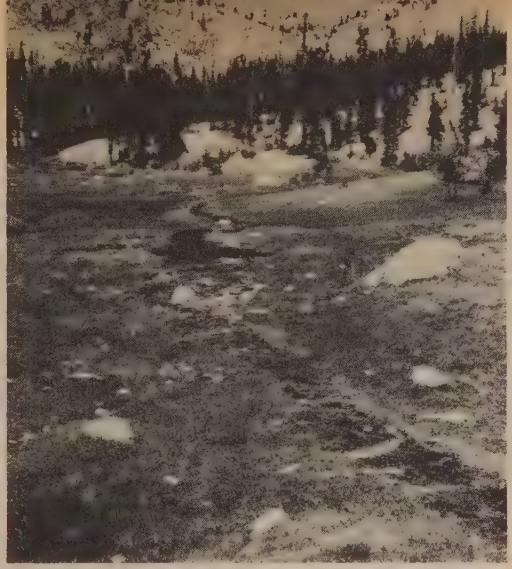
One summer in the backcountry pretty much ruined me as an English major, not to mention a poet. I spent the next ten years of my life building trails and bridges, fixing fences, fighting fires, taking snow surveys, and wandering around in the wilderness. I learned how to work the way people used to work: with their backs, and their hands, and a few good animals. I learned to love and appreciate the people who carry on the knowledge of that kind of work. (Moorehead and McCool, the two trail foremen in Snyder's poem and my first two teachers, continued to tell each other to go to hell for a few more years until McCool died of a stroke.) I learned that the real poets in this country were people like the old mule packer who swore that the mosquitoes up at Hockett Meadow were big enough to fuck a goose flat-footed, and when I called him a liar he just shrugged and said, "I can listen to a lie, if it's told right." I decided that nothing in this world mattered much when you compared it to wilderness, and I would do whatever I had to do to stay close to it.

But after about ten years of building trails and bridges, I began to realize that we had already built too many things in these mountains. We had been here less than a hundred years, yet we had trails that went where other trails already went; we had bridges that didn't really need to bridge anything; and we had cabins that didn't shelter anybody anymore. I began to realize that we, the people who loved this place the most, were becoming its biggest enemy. We were destroying it with our compulsion to improve on it. But how do you reverse the process? How do you go from being a builder of things, to an unbuilder?

Some people say that the value of wilderness is that they aren't making it anymore, like it's a choice piece of real estate, or a rare commodity. I don't think I agree. If a place has been touched by the hand of man, does that mean it is forever impure, that it can never return to a state of innocence? Is wilderness something that can only exist on the fringes of civilization — the New World, Kentucky, Oregon, Alaska, the Arctic? Do we really have such low regard

---

To work outside, to do some writing, and to earn a living wage. For more than ten years Steve Sorensen gave this dream a try as a seasonal employee of the National Forest Service but kept missing a living wage. A few years ago he figured out a better deal when he got himself hired by the weekly San Diego Reader *as a feature writer specializing in outdoor subjects. The* Reader *(circulation 110,000) is one of a group of successful free "Readers" around the country displacing the hold of incumbent city papers by professionally reporting county-wide news only.* —*Kevin Kelly*



An abandoned trail at Granite Basin in Kings Canyon National Park in 1978 (left). In 1972 the rut had been filled with rocks by the Sierra Club (nobody seemed to have any better ideas at the time), but six years later when this picture was taken no significant healing had taken place. (Right) The same section of trail immediately after being filled with soil from nearby creek bottoms. At an elevation of 10,000 feet, and a growing season of perhaps eight weeks, healing is slow. (All photos courtesy of National Forest Service.)

for the human race as to believe they curse everything they touch, and that wilderness lovers must constantly be pushing on to places more remote and inaccessible?

What changed my mind was hiking the Inca trail to Machu Picchu and seeing a whole civilization buried in a jungle. Those people came and went and the wilderness took over again. In a place overlooking the upper Amazon — as wild as any place I had ever been — I bathed in water carried by stone plumbing a thousand years old. It occurred to me that they *are* still making wilderness, if you're patient enough to wait. I began wondering if there was anything I could do to help.

One of the most serious problems threatening the High Sierra wilderness today is the terrible beating the fragile alpine meadows are taking, not by cattle or sheep, but by an even more docile creature — the backpacker. Minimum impact camping is fine, but all land use, even the most passive, leaves its mark. There are those who may disagree with me, but I believe the Vibram sole has done more damage in the High Sierra than all the hooved grass eaters in history. You see, it doesn't do any good to be self-righteous and say it's somebody else who is destroying our wilderness. It's us. We're doing the damage, and we need to learn what we can do to stop it.

The worst problems in the backcountry meadows are where the trails cross the meadows. In the spring and early summer the trails are boggy, and hikers, not wanting to get their feet wet, walk on the dry shoulder of the trail until eventually the fine sedges are destroyed, and the shoulder becomes a muddy rut. There are places in Yosemite where there are fifteen parallel ruts crossing the meadows. Not only are these ruts unsightly, but they seriously interrupt the natural flow of water across the meadows. Once the water is channeled into the ruts, the vegetation on the other side is deprived of its source of moisture. The trail then becomes a creek, which further erodes into the meadow. I have seen scars like this which, in one spring runoff, went from a trail to a rut twelve feet deep, eight feet across, and two hundred feet in length.

Trails, obviously, do not belong in meadows. But it's too easy to blame the Park Service for putting them there. Most of the trails in the Sierra were inherited from the Indians, who in turn inherited them from the animals. They invariably follow the shortest route from one place to another, which often leads them across meadows.

In the last fifteen years or so the Park Service has put a lot of effort into building new trails around the meadows, but has found it very difficult to keep people off the old ones, since they are still the shortest and most convenient routes. A little well-placed camouflaging with logs and rocks will usually trick people into using the new trails for a while, but the old scars never heal, and eventually people will knock down the camouflaging and travel the old routes again. What was needed was a way to build a meadow. The trouble was that among our

In 1978 this trail rut at Granite Basin had been unused for many years, and even though some vegetation had begun to grow on the shoulders of the trail, the rut itself continued to erode deeper each year (left). Ruts similar to this one will sometimes erode 12 feet deep in one spring. (Center) The same rut after crushed rock has been added. Soil is scarce in the Sierra, rocks are abundant, so in the deeper ruts we experimented with different types of fill below ground level, including rocks, duff, tree limbs, and horse manure. (Right) The same rut after adding six inches of soil. It has been overfilled to allow for settling. Note the wooden check dam to slow and divert the flow of water.

carpenters and stonemasons, our foresters, botanists, and zoologists, our plumbers, mule packers, and blasters, there wasn't one person who knew anything about building meadows. I figured the next ice age would probably take care of the problem, but in the meantime I didn't see any harm in trying to learn something about creating wilderness myself.

I had become a trail crew foreman by this time, and during the bureaucratic confusion that followed a shift in supervisors for my division, I managed to change my job description from trail construction to trail unconstruction. There were a lot of people in the Park Service who agreed with what I was trying to do, and most of them knew little bits and pieces of what I was trying to learn. I began talking to them — eccentric botanists, old Civilian Conservation Corps members, retired cattle ranchers who worked as mule packers in the summertime, innovative trail crew foremen from other parks — and I started getting an idea of what had to be done to build a meadow.

The biggest problem was how to transport enough soil to fill in the huge ruts, and do it without machinery in a roadless wilderness over fragile meadow vegetation, without causing more damage than started with. I learned that using mules, you can move four cubic feet of dirt per mule load quickly and efficiently with pack boxes that have collapsible bottoms; with a little patience you can train the mules to straddle the trail ruts so the dirt falls in the hole. If you want to move rocks, I learned, you can skid them over the top of a dry meadow in stone boats without damaging a thing. I learned you can borrow large amounts of soil from creek bottoms, and after the next spring runoff the borrow pits will replenish themselves with no sign of human meddling. I learned that you can transplant plugs of *Carex exerta* — the sedge that covers most of the alpine meadows, and the most common plant in the Sierra — in the late summer when they are dry and dormant, and get more than a seventy-five percent survival rate the next spring. I learned from the botanists how to match soil types, and how to make my own soil mixtures to approximate meadow conditions. I learned that mule dung can be gathered in the backcountry in truly astonishing amounts, and if you let the uric acid leach out of it for a winter, it makes excellent fertilizer. I learned just about everything I would need to know to begin building meadows. All I lacked was labor — a lot of it.

I discovered that the California Conservation Corps was eager to work in the backcountry. I had fought fire and worked on other projects with them, and I was impressed with their working-class ethic. I requested a crew of twelve, then sat back and waited while the two government agencies fought out the politics: "We want you, but we don't want to pay for you." "Why should the State of California subsidize the U.S. Government?" "You're not subsidizing us. We gave you X million dollars last year." "Yeah, but where is it this year?" We eventually got them for the cost of the full-time cook it took to feed them.

I worked a total of four years with the CCC. Together we moved tons and tons of dirt and rock, transplanted acres of vegetation,

and turned miles and miles of eroded trail scars back into meadows. We also turned a dilapidated cabin back into a lovely cabin site, a fenced pasture back into an open range, and a pile of old redwood fence posts back into a charred hillside covered with sequoia seedlings. We unbuilt a lot of things together. Once, when their supervisor hiked into the backcountry to have a look at our work, we sent him off to see what we'd done the year before; but he came back to camp saying he couldn't find it, and we decided that was the best compliment he could have paid us. At first I really thought we were doing the impossible: making wilderness. Later, I had to admit that we were failures — a least for the time being.

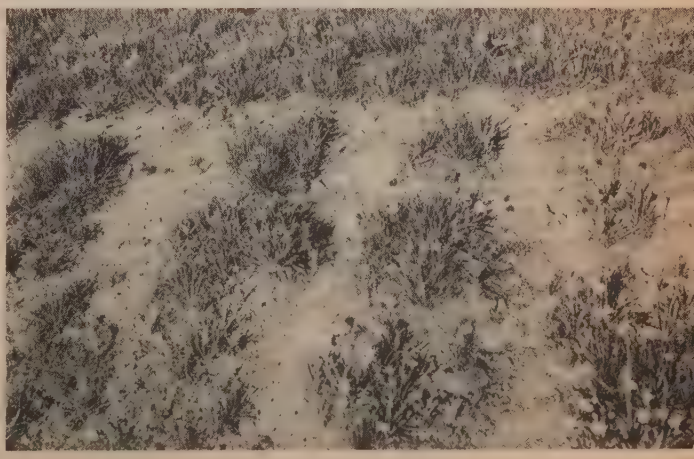
You have to understand that there is something about wilderness that will always be contrary to human nature. We have a compulsion to create order which is almost the exact opposite of "wild." It's so basic to us we often don't even know we're doing it. For example, when I would tell the new CCC members that I wanted sod plugs planted intermittently along a section of trail, I would come back an hour later and find that without even thinking about it they had planted a perfect checkerboard. When I would tell them to move a half-dozen boulders across a section of trail to imitate the surrounding glacial rubble, I would come back to find six boulders of equal size, equally spaced, in a straight line. Those patterns were so human, so unnatural, that I was later able to spot them from a helicopter 1500 feet in the air.

So we would have a little talk, and I would explain to the Corps members, who after all had no experience in building meadows, that nature doesn't have the same compulsion for order that we have, and a good way to make sure that nature has its way is to decide where we would like to put that rock or sod plug, then put it somewhere else. Surprisingly, that made sense to them, and they went arount the rest of the summer muttering, "Put it where it doesn't go."

Then I began to see that creating disorder is only the simplest form of nature for humans to imitate, because it is really just a variation of order. Those of us who derive a peculiar satisfaction out of knocking over rows of dominoes first have to line them all up. I believe that most of us secretly love natural catastrophes — mudslides, hurricanes, earthquakes, volcanoes — for the same reason we love to knock over the dominoes. But even after the most violent expression of nature, there will follow a subtle and intricate pat-

Packer Dick Carr leading a string of mules (Mandy, Chub, and Mr. Ed) loaded with collapsible-bottomed dirt boxes. The mules don't like it, but they get used to it. Note the canvas tarps to protect the mules' backs from the dirt.

CCC crewmembers (corpies) at Siberian Outpost in Sequoia National Park planting sod in a trail after the soil has been added. This is the most tedious of jobs, but singing helps. (Below) A trail scar one year after rehabilitation. Note the checkerboard pattern of the transplanted sod — very efficient, very human, but not very natural.



A trail rut at Sand Meadow in Sequoia in 1979 (left). A new trail had been routed through the trees surrounding the meadow several years earlier, but the old trail remains. (Right) The same section of trail three years after rehabilitation. Even though the erosion has been stopped, some types of vegetation favor the disturbed soil more than others, leaving a memory of the old trail. Only time can finish the healing.

tern that will always be impossible for man to imitate. Examples of this are like a catalogue of my failures: the way colonies of flowers will arrange themselves on a slope according to each species' requirements for moisture and light; the way the sun bleaches out the upper side of a rock, while the minerals in the soil stain the underside, forever marking the way that rock was intended to lie; the way a drainage sorts out its coarse and fine pebbles and deposits them in a network of ornate scrolls; the way a snowpack melts on a hillside year after year, always adding the winter's debris to the uphill side of every rock and log; the undisturbed permanence of lichen; the look of an old log that is dissolving into a meadow; the way an ancient fire burned out the roots of a foxtail pine, leaving only a blackened pit.

I have tried to imitate these things, and the more I tried the more my work looked like something else, until I finally threw my hands up in exasperation and relief. I would be very disappointed to know that nature could be so easily imitated. There is no such thing as building wilderness. There isn't even such a thing as rehabilitating a damaged wilderness. It's just patchwork cosmetics. The best we can hope for is to destroy man's patterns in the wilderness. Then the real work will be done by nature, in due time.

But will it ever really be wilderness again? Can the deflowered virgin return to her virginity? Sometimes I go back and look at the meadows that were overgrazed in the 1930s, and then rehabilitated by the Civilian Conservation Corps in the 1940s. The meadows had been so badly abused there was almost no vegetation left, and in some places the drainages had eroded into the soil more than fifteen feet. The CCC's efforts saved the meadows, and today, forty years later, except for several dozen rotting check dams and a few rusted tobacco tins, there is no sign they were ever there. Yet I have to confess that knowing they were rehabilitated somehow lessens their value for me, and after I've looked over the old work I find myself slipping off to some remote place where I know nobody ever goes. But this is only my impatience — the stubborn perspective of a human who insists on having everything in terms of his three-score and ten years. The meadows go on healing, indifferent to what my opinion of them might be.

We are now entering an era in which no place can truly be called virgin wilderness. There is no place on this Earth that is untouched by the hand of man. We must learn to love and protect the deflowered virgin. We must accept that what we have is not untamed wilderness, but very fragile and vulnerable parks. Whether we like it or not, the land is under our stewardship now, and wilderness, rather than being a virginal place untouched and forever pure, is a place where man and nature allow healing to occur. Wilderness may not even be a place at all, but a process, and believing it can and will happen with time is an expression of faith. ■

Winter Gardening in the Maritime Northwest

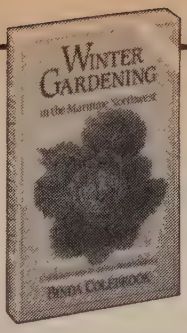
RICHARD NILSEN: *Here is the long-awaited, revised and expanded second edition of a bio-regional gardening classic, which has been out of print. From north coast California through Oregon, Washington, and into British Columbia — where it rains a lot but freezes rarely — appropriate varieties, the right techniques, and a good pair of boots can put green food on the table all winter long.*

•

A reliable *venting system* is another necessity for frames in our climate. Ventilation is far more important than weather tightness in a maritime climate. If you look at a cold frame design from an East Coast or Midwestern book you will encounter all sorts of tricks — insulation, double glazing, heat storage — that, as far as I can see, are unnecessary or even harmful here. We have far more cloud cover and much warmer winters. If you were to grow lettuce at our low light levels, and at the high temperature, high humidity conditions that would result in an airtight frame, you would get leggy, weak plants and lots of fungal growth.

•

ROCKET *Eruca sativa*
Rocket is a small, unselected brassica with a nutty taste reminiscent of watercress. It will grow almost anywhere. It is not especially hard to frost but will germinate in the wettest and coldest of spring soils. It comes charging out of the ground in a couple of days (hence, I suppose, its name) and shows an admirable ability to obtain phosphorus from cold soils. Weather that makes turnip seedlings look sick is nothing to rocket. I have taken to sowing a few plants among the overwintering cold frame lettuces, and then again in mid-spring.



Winter Gardening in the Maritime Northwest
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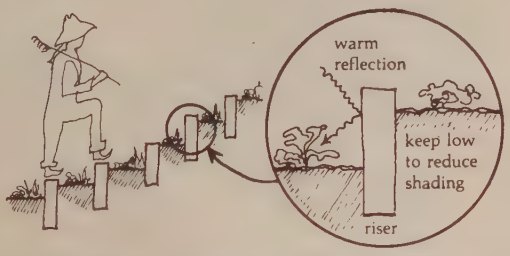
Binda Colebrook
1984; 170 pp.
$9.50
postpaid from:
Maritime Publications
P.O. Box 527
Everson, WA 98247
or Whole Earth Access



In One Barn

RICHARD NILSEN: *For those of us who missed out on 4H as kids, learning-by-doing livestock on a small farm or homestead can initially create more mistakes than is good for either owner or animal. A novice can avoid a slew of errors with this book, but anyone with more experience won't be be put off either. The focus throughout is the animal's emotional and physical well-being. Other necessary facts about housing, health, and feeding are dealt with in relation to this central idea. The author's experience in both doing and teaching produces a lot of do-it-right-the-first-time advice complete with good illustrations. She has her head well-connected to her heart, and has produced a book that is intelligent, practical, and humane.*

•

We allow our cats free access to every building we have, and at the same time provide them with adequate housing. This has provided sufficient rodent control in itself. In fact, when we are having a specific problem in the area where the grain is stored, we feed the cats next to the storage. They sleep on the containers of their own volition and that is the end of the problem.

•

Cattle are usually the carriers of tuberculosis but it can be transmitted to other animals. If fowl are carrying the avian form of the disease — which is *not* transmittable to humans — the cows or goats may test positive on a yearly examination. If they do, *it's the law* that the animal be slaughtered, even though they are carriers but *not infected* animals. Since fowl can usually be replaced at far less cost than a cow or a goat (or herds of each), it seems wiser to just keep them separate at all times.

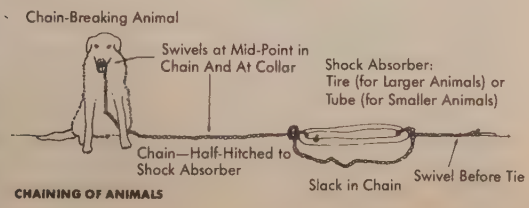
•

If possible, drive a stake in the ground and drop a tire over it, then chain the animal to the tire. The tire acts as a shock absorber, yet is strong enough to hold the animal without severe jerking if the animal yanks the end suddenly. If you have a dog that constantly breaks her chain, this method — or the addition of any shock absorber — will stop it.

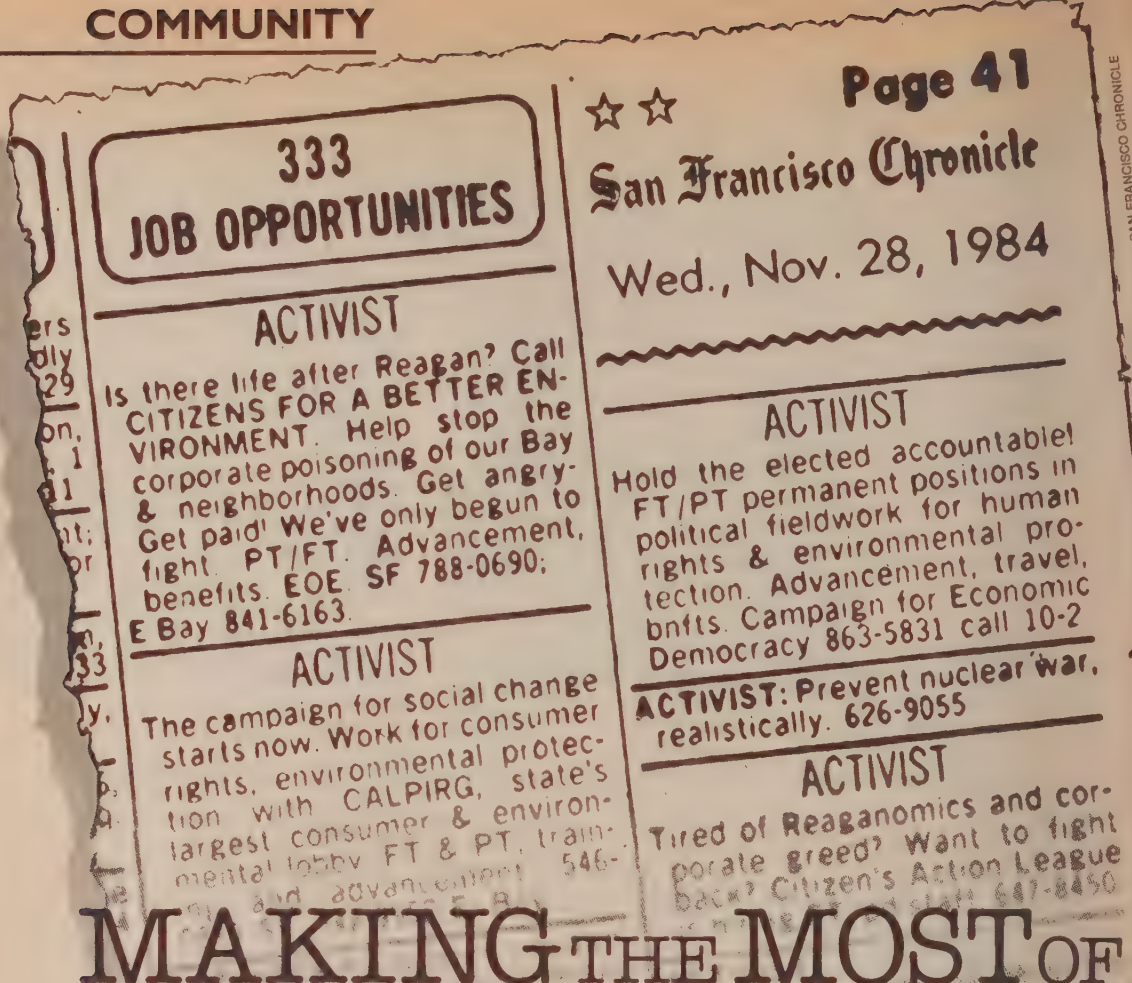
•

The function of animal housing should be to ease temperature differences — *not* to keep the animals warm. It isn't cold weather that makes animals suffer; it's dramatic changes in the weather or an extreme temperature difference between housing and outdoors — and that goes for cold or heat. . . . Most livestock are cold-climate animals to begin with. They grow their "long underwear" not in response to the weather, but in response to *the length of daylight available*. As the days get shorter, their hair grows longer — or woollier or thicker, depending on the species. The process is reversed in spring. This is an automatic process, activated by the pituitary gland, and is essentially the same for all livestock. . . . The basic principle you're after in your own barn is to allow the *animals to retain their heat* as opposed to having a warm place to go. What your animals need most of all in their housing is a windbreak, no drafts, dryness, light, and proper ventilation.

In One Barn
(Efficient Livestock Housing and Management)
Lee Pelley
1984; 152 pp.
$13.45
postpaid from:
The Countryman Press
P.O. Box 175
Woodstock, VT 05091
or Whole Earth Access



CHAINING OF ANIMALS



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San Francisco Chronicle

Wed., Nov. 28, 1984

333 JOB OPPORTUNITIES

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SAN FRANCISCO CHRONICLE

MAKING THE MOST OF PROFESSIONALISM

by Dave Foreman

In between campaigning for arch-conservative Goldwater in 1964 and establishing arch-activist Earth First! *magazine in 1980, Dave Foreman enlisted in professionalism as a pro horseshoer on ranches in his native New Mexico. His remarks here originally appeared in the* Earth First! *August 1984 issue ($15/year from Earth First!, P.O. Box 235, Ely, NV 89301).*
—Kevin Kelly

ONE OF THE DISTINGUISHING CHARACTERISTICS of the environmental movement in 1984 is the increasing number of full-time, paid staff members of conservation groups. Professional staffs have contributed greatly to the successes of the cause and they are a vital force in the battles ahead. Nonetheless, a number of problems can be attributed to this increasing professionalism — chief among them being the concentration of strategic and tactical decision-making in a small elite, and an emphasis on pragmatic politics instead of ethical fundamentals. While the number of professional staff in the environmental movement is unique to this day, the problems are not.

As Stephen Fox points out in his *John Muir and His Legacy: The American Conservation Movement*, the history of the modern conservation movement (from the late 1890s on) can be told as the struggle between bureacratic professionals and "radical amateurs" (enthusiastic volunteers who saw a problem and worked on it without pay).

It is possible to combine the best of the radical amateur and the professional conservationist. From the '30s to the '60s, Bob Marshall, Aldo Leopold, Claus and Mardie Murie, Howard Zahniser, Sigurd Olsen, Rachel Carson, and David Brower exemplified this and got the environmental movement back on track. Since the Sierra Club's firing of David Brower, however, the environmental movement has been

slowly co-opted by the concept of professionalism to the detriment of the vision, activism, ethics, and effectiveness of the cause. I see numerous examples of this:

• Many of the people who work for environmental groups today are not conservationists but rather political operatives or technicians. As in any other business, government, or citizen organization, the technicians, accountants, lawyers, public relations experts, and political pros have taken over from the idealists. Where are the great conservationists today leading the movement? Where is a Muir, Leopold, Marshall, Murie, Carson, or Zahniser at the helm? What have we done with their living heirs? David Brower? Celia Hunter? Clif Merritt?

• Ten years ago, the route to a job with an environmental group was by proving oneself first as a volunteer activist. Academic training and professional experience were worthwhile but were not the critical considerations. The key was to be a hard-working and effective conservationist. Today, that is reversed. It is the relevant degree that is important. Political operatives, not conservationists, are sought for jobs with environmental groups. It is more important, it seems, to understand the technical process of government than the heart and soul of the land.

• Conservation groups look for potential employees who will fit smoothly into the cubbyholes of their particular organization. The businessman who replaced Celia Hunter at the Wilderness Society replaced virtually the entire experienced and effective grassroots staff of that organization with "professionals." Recently, the most effective, experienced, and knowledgeable conservationist in a certain western state was passed over for that Sierra Club regional rep position because he did not "meet the organizational fit."

• Fewer and fewer staff members of conservation groups are outdoorspersons. Many seem more comfortable on the sidewalks of Washington, DC, or San Francisco than on the high ridges of the Cascades, Sierras, Rockies, or Appalachians; more at home in a fern bar than beside the campfire. This is true also of the boards of directors. Read the dusty pages of the old *Living Wilderness.* The Wilderness Society Council of bygone days always met in a rustic setting next to a wilderness and made a trip into the big outside afterward. Not today. Some professional conservationists today once were frequenters of the rocky trail but have drifted away from the call of the hills to that of Capitol Hill. Others are merely YUPs who could just as easily be working for any liberal, progressive political outfit. There are top staff people who are highly knowledgeable about the lore of conservation, but they are armchair conservationists, preferring to encounter the griz in glossy photographs on their coffee tables. A handful of staffers are exceptions, of course, but too few would agree with Leopold that "there are some who can live without wild things, and some who cannot. These . . . are the delights and dilemmas of one who cannot."

DEBBIE SEASE

A parade of conservationists marching to testify at an Interior Committee hearing on the great Alaskan Land Sale (110 million acres on the block) in Denver, Colorado, 1977. Dave Foreman in front with hat and briefcase.

• Staff members of conservation groups today often are career-oriented, not conservation-oriented. Too many see their job with a conservation group as being a stepping stone to one with a prominent politician or to a high position in the administration. Too many take care not to ruffle feathers in order to preserve their opportunity to be considered later for director of the National Park Service or Assistant Secretary of Agriculture. High salaries are commonplace. The heads of some groups pull down $100,000 a year. It is argued that to effectively compete in the high-priced job market of DC lobbying, high salaries must be offered.

• Many people working for environmental groups today have a higher loyalty to the political process than to conservation. They work for conservation groups not because of an overwhelming love of wild nature but because they passionately enjoy the glamor, excitement, and prestige of the Potomac. It is a roll-call vote in the House that mesmerizes them, not goose music. There are strong personal loyalties to particular political figures, loyalties which often override commitment to protection of wilderness or to enhancement of environmental quality. Certain politicians are placed on a pedestal and are not excessively lobbied or criticized.

• The viability of the group itself has become more important than the conservation mission of the group. The primary goal is the organizational maintenance of the group. Even Greenpeace is not immune. There is grumbling in that idealistic organization as spontaneity, militancy, and flexibility have been sacrificed by a new strata of bureaucrats in order to gain "credibility" in the halls of power. As organizational maintenance becomes the primary goal of a group, it begins to compete with allied groups for recognition, money, and status. Instead

DEBBIE SEASE

The author in professional garb during his seven-year stint as Southwest Representative for the Wilderness Society. Duties included public relations, lobbying, field troop organizing.

of trying to win a battle, the group merely wants to get credit for it. Wilderness Society and Sierra Club staffers receive specific directions to beat each other in the media race, to get more quotes than their counterparts in the other group. In one case, a highly-qualified individual was rejected for a regional rep position with one group because of his friendship and excellent working relationship with the regional rep of the competing group. Honchos of one group have expressed concern over the growing Audubon Society presence in Washington, DC. Instead of welcoming the numerous Audubon lobbyists as needed reinforcements in the fray, there is worry about the difficulty of competing for the column inches against the richer organization.

• Once the national boards of environmental groups were made up of the leading conservationists in the country. Today, candidates for the Sierra Club Board of Directors speak of their commitment to smooth business operations. Their election statements downplay any green fire burning in their eyes. The Council of the Wilderness Society seems largely composed of people with connections to money.

• Professional conservationists are generally unfamiliar with the great intellectual discussions going on in the movement. How many understand, or have even heard about, Deep Ecology? How many read the seminal books or articles of the conservation cause? I fear there is a near-total gulf between the political technicians and the thinkers, philosophers, and visionaries.

• Finally, there is a growing breach between volunteer grassroots activists and the professionals. A technical elite has formed which elevates itself above the grassroots. This professional cadre talks to itself and is both defensive and arrogant in its dealings with the conservation masses. It actively functions to inhibit dissent or even public discussion of strategy and priorities.

THE above examples are admittedly general. There are certainly exceptions. While I have concentrated on The Wilderness Society and Sierra Club (because I know them best), the phenomenon is movement-wide — even state groups are feeling the pressure to become more professional. A current power struggle within Friends of the Earth has all the hallmarks of a confrontation between the radical amateurs and the resource professionals. There are a number of outstanding individuals working for both national and state conservation groups who are worthy heirs to the tradition of Marshall and Brower, but they are caught in a "professional" tide within the sea of conservation.

Professional conservationists are here to stay. Indeed, arguments can be well made for the need for more paid staff. Nonetheless, we must be willing to carefully study the inherent problems of professionalism and devise built-in safeguards against them. I do not want to rid the movement of paid staff, I want to see paid staff function as effectively as possible. Some easy steps that can be implemented almost immediately, with little cost, and with, I think, great effectiveness against the pitfalls of professionalism are outlined below:

1. All employees of conservation groups (including administrative and clerical) should be required to take two weeks of paid vacation a year *in the wilderness.* There should be no exceptions (including for Executive Directors). These should be real wilderness trips including at least one of a week in duration. It would be very simple, for example, to allow Sierra Club staff to go on national SC outings for free.

The argument will be immediately raised that conservation staffers are overworked and do not have time for wilderness vacations. This is hypocrisy. One of the major arguments given for wilderness areas in the modern era is as refuges for re-creation, for escape from the stress of unnatural urban civilization. If wilderness lobbyists say they don't need "the tonic of the wilderness," then they do not believe in the cause they are promoting. On a personal note, I've found that I can accomplish more work in less time by frequently visiting wilderness areas and recharging my enthusiasm.

2. In addition to the above, at least one annual staff meeting should take place in a rustic setting (not a plush ski lodge) with at least an overnight wilderness excursion before or after. There should be joint meetings in such surroundings between the issues staffs of the Sierra Club, Wilderness Society, Friends of the Earth, Audubon Society, Defenders of Wildlife, and state environmental groups.

3. Sierra Club regional representatives should not be hired or supervised by the national administration of the Club. Instead, grants should be made by the national club to each Regional Conservation Committee to hire and fund a conservation staff person (or persons). These regional reps and their assistants would be employees of the RCC and would report to the RCC, although they would obviously work closely with the national conservation staff.

4. The Sierra Club National Board of Directors has become largely occupied with mundane business matters and has too little to do with conservation. This has left a vacuum, allowing a staff clique to monopolize strategy, priorities, and implementation of conservation work. Perhaps the national SC BoD could be divided into two committees, one to deal with conservation, the other with administrative matters. But somehow the grassroots activists of

the Club need a greater role in directing action and fundamental strategy.

5. Although there are some outstanding conservationists on The Wilderness Society Council (notable recent additions are Huey Johnson and Ernie Day), the Council is largely composed of people with money or access to money (not necessarily incompatible with being an eco-freak). While raising money is important, the Council needs to spend more time on conservation.

As with the Sierra Club Board of Directors, perhaps the TWS Council could be divided into two committees, one overseeing conservation and the other concentrating on raising money and business matters.

6. State wilderness groups in the West (Southeast Alaska Conservation Council, Washington Wilderness Coalition, Oregon Natural Resources Council, California Wilderness Coalition, Arizona Wilderness Coalition, Nevada Outdoor Recreation Association, Committee for Idaho's High Desert, Montana Wilderness Association, Wyoming Wilderness Association, Utah Wilderness Association, Colorado Open Spaces Council, New Mexico Wilderness Study Committee, for example) should form the Western Wilderness Coalition and hire a lobbyist to represent them in Washington, DC, so that they are not controlled by, or dependent on, the big national groups. The Board of Directors of the Western Wilderness Coalition could be made up of the heads of the individual groups and would directly supervise the DC lobbyist. Groups east of the Rockies should similarly organize.

7. The Sierra Club, The Wilderness Society, Friends of the Earth, Audubon, and other groups should jointly set up a fund to disburse more than $200,000 a year in $10,000 grants to individual conservation activists. There should be no strings attached to such grants and the recipients should be free to work on whatever they wish. Since they would be experienced, capable, self-starting activists, there should be no need for supervision or administrative overhead.

8. A ceiling should be placed on salaries paid by conservation groups. No one (including Executive Directors) should earn more than $30,000 a year and most salaries should be kept below $20,000. This would eliminate most political technicians from applying for such jobs and leave them in the hands of those who are personally committed to the preservation of natural diversity.

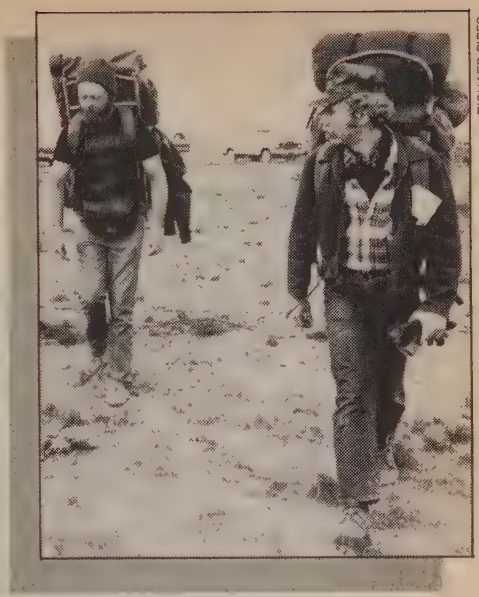
9. A primary requisite for employment by a conservation group should be experience as a volunteer activist. Full-time paid staff positions should be earned by an apprenticeship as a grassroots conservation activist.

10. Staff members of conservation groups should be required to be current on the ongoing philosophical discussions within the environmental movement. They should read the important books and articles. Conservation groups could buy bulk copies of the important works wholesale and distribute them to staff. Seminal magazine articles should be distributed as well. Reading should be required.

Again, there will be the objection that conservation staffers are overworked and do not have time to read. Medical professionals are also overworked but they have to find time to read professional material or they will fall behind in their profession. It is just as important for a conservation professional to be up-to-date.

11. Lobbyists for conservation groups in DC should be required to make at least four trips to the field annually. They should attend the important conferences and meet with grassroots leaders and visit key areas in the states where national issues will emerge. For example, lobbyists working on national forest wilderness should set foot in a few of the areas in each state.

The argument has been made that someone does not need to know a particular area to be able to fight effectively for it. My experience of eight years with The Wilderness Society clearly demonstrated to me that if I did not personally know an area I would not fight as hard for it as for one I knew, that I would



RICHARD PIPES

The author (left) on the job as conservation monkey-wrencher. Together with fellow activist Jim Taylor they hike out to (successfully) blockade an illegal gas well drilling in Bitter Creek Wildlife Refuge, New Mexico.

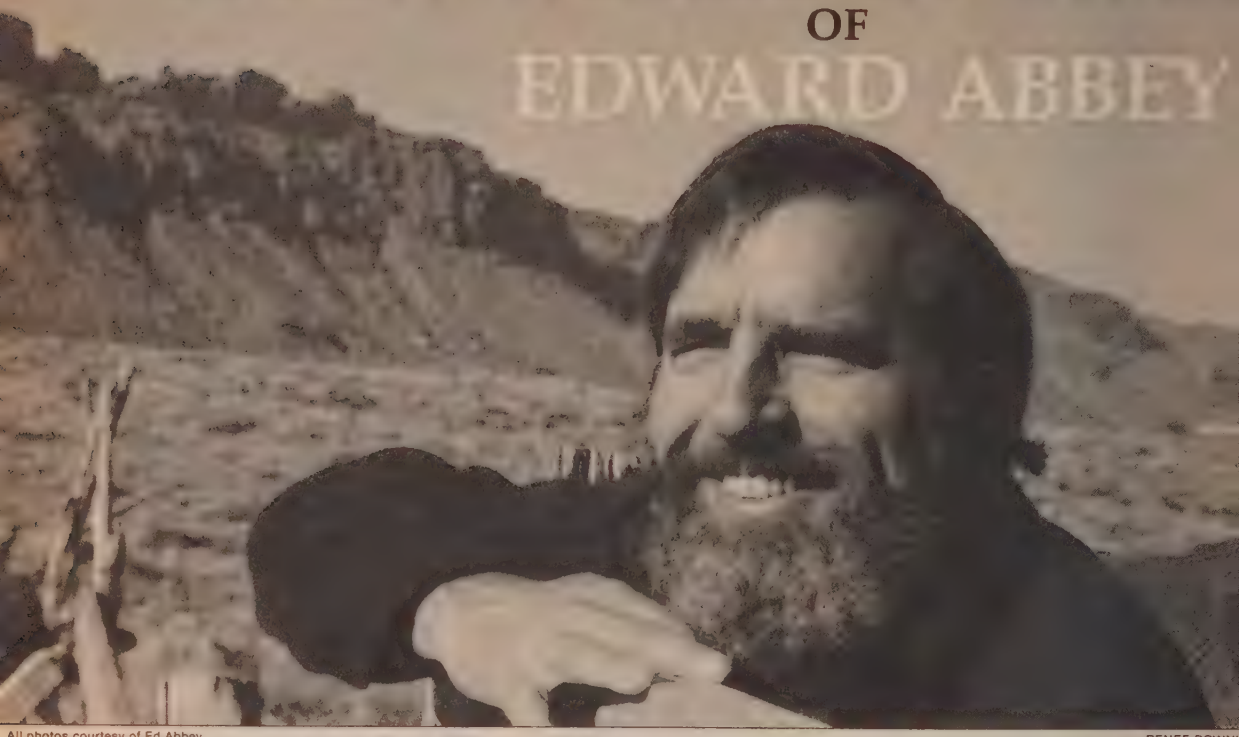
compromise on the area I didn't know. This is simply human nature. A lobbyist may not go the extra mile required to save an area if he/she has never seen it, if the elk and sunsets and bear tracks do not exist for him/her, if it is merely a disembodied name in a list.

12. Staff members should be required to become personally involved in local conservation groups (i.e., Sierra Club staff in DC should be active in the Potomac Chapter) and be individually involved in at least one local issue.

13. The Sierra Club/Wilderness Society Biennial Wilderness Conference should be reborn. Controversial speakers should be invited. Serious discussion, strategizing, speculating and networking should take place between staff, volunteers, and academics. Dissent should not be stifled but rather encouraged.

14. Grassroots conservationists need to develop a greater militancy, more aggressiveness to control the movement, a willingness to demand the replacement of professional staff who become aloof, co-opted, or elitist, and to stand up for decentralized decision-making. ■

A FEW WORDS IN FAVOR OF EDWARD ABBEY



All photos courtesy of Ed Abbey

RENEE DOWNI

by Wendell Berry

READING THROUGH A SIZEABLE GATHERING OF REVIEWS OF Edward Abbey's books, as I have lately done, one becomes increasingly aware of the extent to which this writer is seen as a problem by people who are, or who think they are, on his side. The problem, evidently, is that he will not stay in line. No sooner has a label been stuck to his back by a somewhat hesitant well-wisher than he runs beneath a low limb and scrapes it off. To the consternation of the "committed" reviewer, he is not a conservationist or an environmentalist or a boxable -ist of any kind; he keeps on showing up as Edward Abbey, a horse of another color, and one that requires more care to appreciate.

He is a problem, apparently, even to some of his defenders, who have an uncontrollable itch to apologize for him: "Well, he did *say* that. But we mustn't take him altogether seriously. He is only trying to shock us into paying attention." Don't we all remember, from our freshman English class, how important it is to get the reader's attention?

Some environmentalist reviewers see Mr. Abbey as a direct threat to their cause. They see him as embarrassingly prejudiced or radical or unruly. Not a typical review, but representative of a certain kind of feeling about Edward Abbey, was Dennis Drabelle's attack on *Down the River* in *The Nation* of May 1, 1982. Mr. Drabelle accuses Mr. Abbey of elitism, iconoclasm, arrogance, and xenophobia; he finds that Mr. Abbey's "immense popularity among environmentalists is puzzling"; and observes that "many of his attitudes give aid and comfort to the enemies of conservation."

"He is advertised as an environmentalist . . . and who shows up but this character."

Edward Abbey, of course, is a mortal requiring criticism, and I would not attempt to argue otherwise. He undoubtedly has some of the faults he has been accused of having, and maybe some others that have not been discovered yet. What I *would* argue is that attacks on him such as that of Mr. Drabelle are based on misreading, and that the misreading is based on the assumption that Mr. Abbey is both a lesser man and a lesser writer than he is in fact.

Mr. Drabelle and others like him assume that Mr. Abbey is an environmentalist — hence, that they, as other environmentalists, have a right to expect him to perform as their tool. They further assume that, if he does not so perform, they have a proprietary right to complain. They would like, in effect, to brand him an outcast and an enemy of their movement, and to enforce their judgment against him by warning people away from his books. Why should environmentalists want to read a writer whose immense popularity among them is puzzling?

Such assumptions, I think, rest on yet another that is more important and more needful of attention: the assumption that our environmental problems are the result of bad policies, bad political decisions, and that, therefore, our salvation lies in winning unbelievers to the right political side. If all those assumptions were true, then I suppose that the objections of Mr. Drabelle would be sustainable: Mr. Abbey's obstreperous traits would be as unsuitable in him as in any other political lobbyist. Those assumptions, however, are false.

Mr. Abbey is not an environmentalist. He is, certainly, a defender of some things that environmentalists defend, but he does not write merely in defense of what we call "the environment." Our environmental problems, moreover, are not, at root, political; they are cultural. As Edward Abbey knows and has been telling us, our country is not being destroyed by bad politics; it is being destroyed by a bad way of life. Bad politics is merely another result. To see that the problem is far more than political is to return to reality, and a look at reality permits us to see, for example, what Mr. Abbey's alleged xenophobia amounts to.

The instance of xenophobia cited by Mr. Drabelle occurs on page 17 of *Down The River*, where Mr. Abbey proposes that our Mexican border should be closed to immigration. If we permit unlimited immigration, he says, before long "the social, political, economic life of the United States will be reduced to the level of life in Juarez. Guadalajara. Mexico City. San Salvador, Haiti. India. To a common peneplain of overcrowding, squalor, misery, oppression, torture, and hate."

That is certainly not a liberal statement. It expresses "contempt for other societies," just as Mr. Drabelle says it does. It is, moreover, a fine example of the exuberantly opinionated Abbey sentence that raises the hackles of readers like Mr. Drabelle — as it is probably intended to do. But before we dismiss it for its tone of "churlish hauteur," we had better ask if there is any truth in it.

And there is some truth in it. As the context plainly shows, this sentence is saying something just as critical of ourselves as of the other countries mentioned. Whatever the justice of the "contempt for other societies," the contempt for the society of the United States, which is made explicit in the next paragraph, is fearfully just: "We are slaves in the sense that we depend for our daily survival upon an expand-or-expire agro-industrial empire — a crackpot machine — that the specialists cannot comprehend and the managers cannot manage. Which is, furthermore, devouring world resources at an exponential rate. We are, most of us, dependent employees" — a statement that is daily verified by the daily news. And its truth exposes the ruthless paradox of Mexican immigration: Mexicans cross the border because our way of life is extravagant; because our way of life is extravagant, we have no place for them, or won't for very long. A generous immigration policy would be con-

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I phoned Port Royal, Kentucky. "Wendell, I hear you don't love computers as much as you're supposed to." He agreed for half an hour, but averred that he didn't know enough on the subject to participate usefully in the "Computers as Poison" issue of Whole Earth Review. *Instead he sent this piece on author Edward Abbey, who deserves better than he gets from environmentalist party-liners. Wendell Berry is author of* Standing by Words *and* The Unsettling of America *(essays),* The Country of Marriage *(poems), and* The Memory of Old Jack *(novel), among many others. This piece will appear in a forthcoming book* Resist Much, Obey Little *edited by James Hepworth and Greg McNamee, available March 1, 1985 (Dream Garden Press, 1199 Iola Avenue, Salt Lake City, UT 84104).* —*Stewart Brand*

tradicted by our fundamentally ungenerous way of life. Mr. Abbey assumes that, before talking about generosity, we must talk about carrying capacity, and he is correct. The ability to be generous is finally limited by the availability of supplies.

The next question, then, must be: If he is going to write about immigration, why doesn't he do it in a sober, informed, logical manner? The answer, I am afraid, will not suit some advocates of sobriety, information, and logic: He *can* write in a sober, informed, logical manner — if he *wants* to. And why does he sometimes not want to? Because it is not in his character to want to all the time. With Mr. Abbey character is given, or it takes, a certain precedence, and that precedence makes him a writer and a man of a different kind, and probably a better kind, than the practitioner of mere sobriety, information, and logic.

In classifying Mr. Abbey as an environmentalist, Mr. Drabelle is implicitly requiring him to be sober, informed, and logical. And there is nothing illogical about Mr. Drabelle's discomfort when his call for an environmentalist was answered by a man of character, somewhat unruly, who apparently did not know that an environmentalist was expected. That, I think, is Mr. Abbey's problem with many of his detractors. He is advertised as an environmentalist. They *want* him to be an environmentalist. And who shows up but this *character*, who writes beautifully some of the time, who argues some of the time with great eloquence and power, but who some of the time offers opinions that appear to be only his own uncertified prejudices, and who some of the time, and even in the midst of serious discussion, makes *jokes*.

If Mr. Abbey is not an environmentalist, what is he? He is, I think, at least in the essays, an autobiographer. He may be writing on one or another of what are now called environmental issues, but he remains Edward Abbey, speaking as and for himself, fighting, literally, for dear life. This is important, for if he is writing as an autobiographer, he *cannot* be writing as an environmentalist — or as a special*ist* of any other kind. As an autobiographer, his work is self-defense. As a conservationist, he is working to conserve himself as a human being. But this is self-defense and self-conservation of the largest and noblest kind, for Mr. Abbey understands that to defend and conserve oneself as a human being in the fullest, truest sense, one must defend and conserve many others and much else. What would be the hope of being personally whole in a dismembered society, or personally healthy in a land scalped, scraped, eroded, and poisoned, or personally free in a land entirely controlled by the government, or personally enlightened in an age illuminated only by TV? Edward Abbey is fighting on a much broader front than that of any "movement." He is fighting for the survival, not only of nature, but of *human* nature, of culture, as only our heritage of works and hopes can define it. He is, in short, a traditionalist — as he has said himself, expecting, perhaps, not to be believed.

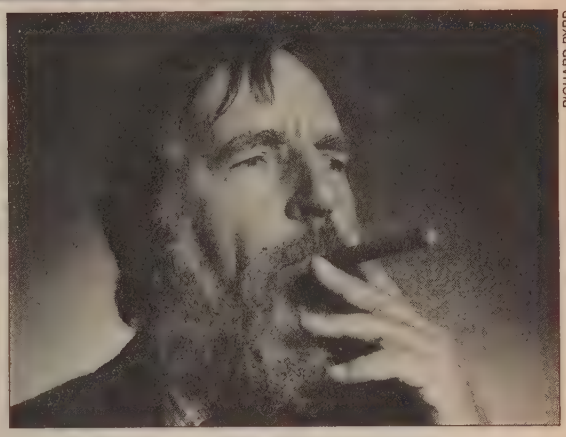
Here the example of Thoreau becomes pertinent. My essay may seem on the verge of becoming very conventional now, for one of the strongest of contemporary conventions is that of comparing every writer who has been as far out of the house as the mailbox to Thoreau. But I do not intend to say that Mr. Abbey writes like Thoreau, for I do not think he does, but only that their *cases* are similar. Thoreau has been adopted by the American environmental movement as a figurehead; he is customarily quoted and invoked as if he were in some simple way a forerunner of environmentalism. This is possible, obviously, only because Thoreau has been dead since 1862. Thoreau was an environmentalist in exactly the sense that Edward Abbey is: he was for some things that environmentalists are for. And in his own time he was just as much an embarrassment to movements, just as uncongenial to the group spirit, as Edward Abbey is, and for the same reasons: he was working as an autobiographer, and his great effort was to conserve himself as a human being in the best and fullest sense. As a political activist, he was a poor excuse. What was the political value of his forlorn, solitary taxpayer's revolt against the Mexican War? What was politic about his defense of John Brown, or his insistence that abolitionists should free the *wage* slaves of Massachusetts? Who could trust the diplomacy of a man who would pray:

> Great God, I ask thee for no other pelf
> Than that I may not disappoint myself;
>
> . . . . . .
>
> And next in value, which thy kindness lends,
> That I may greatly disappoint my friends . . . ?

The point, evidently, is that if we want the human enterprise to be defended, we must reconcile ourselves to the likelihood that it can be defended only by human beings.

ROBERT FISHER

Abbey and actor William Devane on Comb's Ridge, Utah, filming a documentary on American wilderness.



RICHARD BYRD

At a "poetry festival" in Bisbee, Arizona

This, of course, entails an enormous job of criticism: an endless judging and sorting of the qualities of human beings and of their contributions to the human enterprise. But the size and urgency of this job of criticism should warn us to be extremely wary of specializing the grounds of judgment. To judge a book by Edward Abbey by the standard of the immediate political aims of the environment movement is not only grossly unfair to Mr. Abbey, but is a serious disservice to the movement itself.

The trouble, then, with Mr. Abbey — a trouble, I confess, that I am disposed to like — is that he speaks insistently as himself. In any piece of his, we are apt to have to deal with all of him, caprices and prejudices included. He does not simply *submit* to our criticism, as does any author who publishes, but virtually demands it. And so his defenders, it seems to me, are obliged to take him seriously, to assume that he generally means what he says, and, instead of apologizing for him, to acknowledge that he is not always right or always fair. He is *not*, of course. Who is? For me, part of the experience of reading him has always been, at certain points, that of arguing with him.

My defense of him begins with the fact that I *want* him to argue with, as I *want* to argue with Thoreau, another writer full of cranky opinions and strong feelings. If we value these men and their work, we are compelled to acknowledge that such writers are not made by tailoring to the requirements, and trimming to the tastes, of any and all. They submit to standards raised, though not made, by themselves. We, with our standards, must take them as they come, defend ourselves against them if we can, agree with them if we must. If we want to avail ourselves of the considerable usefulness and the considerable pleasure of Edward Abbey, we will have to like him as he is. If we cannot like him as he is, then we will have to ignore him, if we can. My own notion is that he is going to become harder to ignore, and for good reasons — not the least being that the military-industrial state is working as hard as it can to prove him right.

It seems virtually certain that no reader can read much of Mr. Abbey without finding some insult to something that he or she approves of. Mr. Abbey is very hard, for instance, on "movements" — the more solemn and sacred they are, the more they tempt his ridicule. He is a great irreverencer of sacred cows. There is, I believe, not one sacred cow of the sizeable herd still on the range that he has left ungoosed. He makes his rounds as unerringly as the local artificial inseminator. This is one of his leitmotifs. He gets around to them all. These are glancing blows, mainly, delivered on the run, with a weapon no more lethal than his middle finger. The following is a fairly typical example:

> The essays in *Down the River* are meant to serve as antidotes to despair. Despair leads to boredom, electronic games, computer hacking, poetry and other bad habits.

That example is appropriate here because it

passingly gooses one of my sacred cows: poetry. I am inclined to be tickled rather than bothered by Mr. Abbey's way with consecrated bovines, and this instance does not stop me long. I do pause, nevertheless, to think that *I*, anyhow, would not equate poetry with electronic pastimes. But if one is proposing to take Mr. Abbey seriously, one finally must stop and deal with such matters. *Am* I, then, a defender of "poetry"? The answer, inevitably, is no; I am a defender of *some* poems. Any human product or activity that humans defend *as a category* becomes, by that fact, a sacred cow — in need, by the same fact, of an occasional goosing, an activity, therefore, that arguably serves the public good.

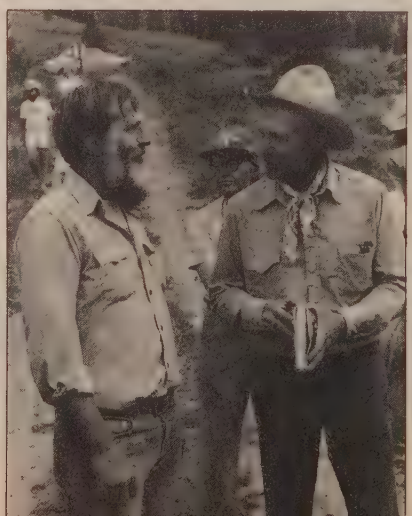
Some instances of this are funnier than others, and readers will certainly disagree as to the funniness of any given instance. But whatever one's opinion, in particular or in general, of Mr. Abbey's blasphemies against sacred cows, one should be wary of the assumption that they are merely humorous, or (as has been suggested) merely "image-making" stunts calculated to sell articles to magazines. They are, I think, gestures or reflexes of his independence — his refusal to speak as a spokesman or a property of any group or movement, however righteous. This keeps the real dimension and gravity of our problem visible to him, and keeps him from falling for easy answers. You never hear Mr. Abbey proposing that the fulfillment of this or that public program, or the achievement of the aims of this or that movement, or the "liberation" of this or that group will save us. The absence, in him, of such propositions is one of his qualities, and it is a welcome relief.

The funniest and the best of these assaults are the several that are launched head-on against the most exalted of all the modern sacred cows: the self. Mr. Abbey's most endearing virtue as an autobiographer is his ability to stand aside from himself, and recount his most outrageous and self-embarrassing goof-ups, with a bemused and gleeful curiosity, as if they were the accomplishments, not merely of somebody else, but of an altogether different kind of creature. I envy him that. It is, of course, a high accomplishment. How absurd we humans, in fact, are! How misapplied is our self-admiration — as we can readily see by observing other self-admiring humans! How richly just and healthful is self-ridicule! And yet how few of us are capable of it. I certainly do find it hard. My own goof-ups seem to me to have received merciless publicity when my wife has found out about them.

Because he is so humorous and unflinching an autobiographer, he knows better than to be uncritical about anything human. That is why he holds sacred cows in no reverence.

BILL HUNTER

Edward Abbey and daughter Susie on a float trip down Desolation Canyon, Green River, Utah.



PETE DUSTRUD

Abbey and Cecil Garland at Earth First! rally near Jackson, Wyoming.

And it is at least partly why his reverence for nature is authentic; he does not go to nature to seek himself or flatter himself, or speak of nature in order to display his sensitivity. He is understandably reluctant to reveal himself as a religious man, but the fact occasionally appears plainly enough: "It seems clear at last that our love for the natural world — Nature — is the only means by which we can requite God's obvious love for it."

The richest brief example of Abbey humor that I remember is his epigram on "gun control" in his essay, "The Right to Arms." "If guns are outlawed," he says, "only the government will have guns." That sentence, of course, is a parody of the "gun lobby" bumper-sticker: "If guns are outlawed, only outlaws will have guns." It seems at first only another example of sacred cow goosing — howbeit an unusually clever one, for it gooses *both* sacred cows involved in this conflict: the idea that, because guns are used in murders, they should be "controlled" by the government, and the idea that the Second Amendment to the Bill of Rights confers a liberty that is merely personal. Mr. Abbey's sentence, masquerading as an instance of his well-known "iconoclasm," slices cleanly through the distractions of the controversy to the historical and constitutional roots of the issue. The sentence is, in fact, an excellent gloss on the word "militia" in the Second Amendment. And so what might appear at first to be merely an "iconoclastic" joke at the expense of two public factions becomes, on examination, the expression of a respectable political fear and an honorable political philosophy, a statement that the authors of our constitution would have recognized and welcomed. The epigram is thus a product of wit of the highest order, richer than the excellent little essay that contains it.

Humor, in Mr. Abbey's work, is a function of his outrage, and is therefore always answering to necessity. Without his humor, his outrage would be intolerable — as, without his outrage, his humor would often be shallow or self-exploitive. The indispensable work of his humor, as I see it, is that it keeps bringing the whole man into the job of work. Often, the humor is not so much a property of the argument at hand, as it is a property of the stance from which the argument issues.

Mr. Abbey writes as a man who has taken a stand. He is an *interested* writer. This exposes him to the charge of being prejudiced, and prejudiced he certainly is. He is prejudiced against tyranny over both humanity and nature. He is prejudiced against sacred cows, the favorite pets of tyrants. He is prejudiced in favor of democracy and freedom. He is prejudiced in favor of the wild creatures and their wild habitats. He is prejudiced in favor of charitable relations between humanity and nature. He has other prejudices too, but I believe that those are the main ones. All of his prejudices, major and minor, identify him as he is, not as any reader would have him be. Because he speaks as himself, he does not represent any group, but he *stands* for all of us.

He is, I think, one of the great defenders of the idea of property. His novel, *Fire on the Mountain,* is a moving, eloquent statement on behalf of the personal proprietorship of land — *proper* property. And this espousal of the cause of the private landowners, the small farmers and small ranchers, is evident throughout his work. But his advocacy of that kind of property is balanced by his advocacy of another kind: public property, not as "government land," but as wild land, wild property, which, belonging to nobody, belongs to everybody, including the wild creatures native to it. He understands better than anyone I know the likelihood that one kind of property is not safe without the other. He understands, that is, the natural enmity between tyranny and wilderness. "Robin Hood, not King Arthur," he says, "is the real hero of English legend."

You cannot lose your land and remain free; if you keep your land, you cannot be enslaved. That is an old feeling that began to work its way toward public principle in our country at about the time of the Stamp Act. Mr. Abbey inherits it fully. He understands it both consciously and instinctively. It is this and not nature love, I think, that is the real motive of his outrage. His great fear is the fear of dispossession.

But his interest is not just in *landed* property. His enterprise is the defense of all that properly belongs to us, including all those thoughts and works and hopes that we inherit from our culture. His work abounds in anti-intellectual jokes — he is not going to run with *that* pack, either — but no one can read him attentively without realizing that he has read well and widely. His love for Bach is virtually a theme of his work. His outrage often vents itself in outrageousness, and yet it is the outrage of a cultivated man — that is why it is valuable to us, and why it is interesting.

He is a cultivated man. And he is a splendid

PETE DUSTRUD

Speechmaking at an Earth First! rally near Jackson, Wyoming.

writer. Readers who allow themselves to be distracted by his jokes at their or our or his own expense cheat themselves out of a treasure. The xenophobic remark that so angers Mr. Drabelle, for example, occurs in an essay, "Down the River with Henry Thoreau," which is an excellent piece of writing — entertaining, funny some of the time, aboundingly alive and alert, variously interesting, diversely instructive. The river is the Green, in Utah; the occasion is a boat trip by Mr. Abbey and five of his friends in November, 1980. During the trip he read *Walden* for the first time since his school days. This subjection of a human product to "the prehuman sanity of the desert" is characteristic of Mr. Abbey's work, the result of one of his soundest instincts. His account of the trip is, at once, a travelogue, a descriptive catalogue of natural sights and wonders, and a literary essay. It is an essay in the pure, literal sense: a trial. Mr. Abbey tries himself against Thoreau and Thoreau against himself; he tries himself and Thoreau against the river; he tries himself and Thoreau and the river against modern times, and vice versa. The essay looks almost capriciously informal; only a highly accomplished and knowledgeable writer would have been capable of it. It is, among all else, a fine literary essay — such a reading of *Walden* as Thoreau would have wanted, not by the faceless automaton of current academic "scholarship," but by a man outdoors, whose character is in every sentence he writes.

I don't know that that essay, good as it is, is outstanding among the many that Mr. Abbey has written. I chose to speak of it because Mr. Drabelle chose to speak of it, and because I think it represents its author well enough. It exhibits one of his paramount virtues as a writer, a virtue paramount in every writer who has it: he is always interesting. I have read, I believe, all of his books except one, and I do not remember being bored by any of them. One reason for this is the great speed and activity of his pages; a page of his, picked at random, is likely, I believe, to have an unusual number of changes of subject, and cover an unusual amount of ground. Another reason is that he does not oversimplify either himself or, despite his predilection for one-liners, his subject. Another reason is his humor, the various forms of which keep breaking through the surface in unexpected places, like wet-weather springs.

But the quality in him that I most prize, the one that removes him from the company of the writers I respect and puts him in the company, the smaller company, of the writers I love, is that he sees the gravity, the great danger, of the predicament we are now in, he tells it unswervingly, and he defends unflinchingly the heritage and the qualities that may preserve us. I read him, that is to say, for consolation, for the comfort of being told the truth. There is no longer any honest way to deny that a way of living that our leaders continue to praise is destroying all that our country is and all the best that it means. We are living even now among punishments and ruins. For those who know this, Edward Abbey's books will remain an indispensable solace. His essays, and his novels too, *are* "antidotes to despair." For those who think that a few more laws will enable us to go on safely as we are going, they will remain — and good for him! — a pain in the neck. ■

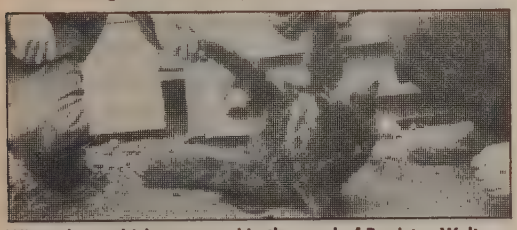
Selected books by Edward Abbey:
Desert Solitaire. New York: Simon and Schuster, 1970. $8.95.
The Monkey Wrench Gang. New York: Avon, 1976. $3.95.
Fire on the Mountain. Albuquerque: University of New Mexico Press, 1978. $6.95.
The Brave Cowboy. New York: Avon, 1982. $2.95.

Living Wonders

TED SCHULTZ: *Dogs that journey thousands of miles to rejoin their masters; flocks of crows conducting "funerals" for their dead; living toads extracted from cornerstones laid centuries before — these are accounts that seem to lie just below the surface of the collective unconscious, regularly welling up in folk tales, passing conversations, or in throwaway newspaper clippings.* ***Living Wonders*** *performs the fascinating service of bringing these and many other such recurring curiosities into focus. It collates references published in diverse historical and modern sources into a thoroughly entertaining collection, wonderfully illustrated with engravings and photos.*

You can randomly open to any page and quickly become immersed in accounts of rains of fishes and frogs or of modern Jonahs swallowed up by whales. Each short chapter left me wishing for more. One of my favorite parts is the "Wonderful Creatures" section, which includes chapters on the history of talking dogs and cats, horses that do arithmetic, and pets whose loyalties extend beyond the deaths of their masters.

Living Wonders *left me with the strong impression that many an obscure folk belief has foundation in some incredible natural fact, and the reason it's obscure is because it fits no academic category of human inquiry — an oversight corrected by rare books like this.*



Winged cat which appeared in the yard of Banister Walton & Co., Trafford Park, Manchester, and made its home there for some years.

Living Wonders
(Mysteries and Curiosities of the Animal World)
John Michell and Robert J.M. Rickard
1982; 176 pp.
$10.95
postpaid from:
National Book Company
Keystone Industrial Park
Scranton, PA 18512
or Whole Earth Access

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A Rat King consists of a number of rats found inextricably tied together by tails in a central knot. Another name for this fearful conglomeration is the Rat King's Throne. All the reports of Rat Kings agree that black rats only are involved in these mysterious minglings; and one reason for the rarity of the phenomenon today might be the savage depletions of the black rat population by the hordes of brown rats that invaded Central Europe from the region of the Caspian Sea in the eighteenth century.

•

A smooth-haired fox-terrier called Ben, belonging to Mr and Mrs Brissenden of Greek Street, Royston, Hertfordshire, was the subject of two articles in the *Daily Mirror* on 11 and 12 August 1946. A *Mirror* reporter had visited his home the previous day, and several times had heard Ben say, clearly and distinctly, 'I want one,' evidently expressing desire for a cup of tea, a biscuit and other doggy treats. His voice was described as 'dark brown' and 'a rich baritone,' low-pitched and authoritative. The reporter found it quite uncanny the way Ben used different tones of voice in making his requests, 'from the wheedling note to the gruff, demanding one.'

In August 1975, during construction work at Fort Worth, Texas, a green terrapin was found embedded under a mound of hardened concrete which had presumably been poured onto it. It was thought to have been there for at least a year. It died 36 hours after its rescue.

The International Society of Cryptozoology

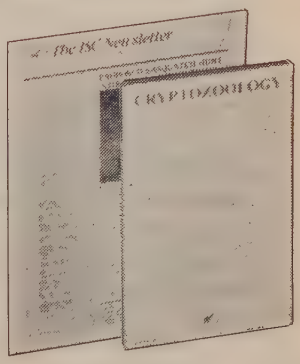
TED SCHULTZ: *The discovery in 1939 of a living coelecanth, a large prehistoric armored fish known previously only from fossil records of 65 million years ago, jolted the world of natural science and bolstered the cryptozoological premise that the natural world is far from cataloged. Cryptozoology, literally the "study of hidden animals," is a term created by the Belgian zoologist Dr. Bernard Heuvelmans to describe the investigation of animals whose existence is suggested only by indirect evidence: local folklore, sightings, photos, tracks, droppings, partial remains, sounds — anything short of a living or well-preserved dead specimen.*

The International Society of Cryptozoology is dedicated to the investigation of "all matters related to animals of unexpected form or size, or unexpected occurrence in time or space." The ISC's board of directors is made up of Ph.D. biologists of various disciplines, firmly entrenched in academic institutions around the world, so it's hard to dismiss them as crackpots when reading of their recent expeditions to locate relic dinosaurs in Africa, a mermaid-like sea mammal called the "Ri" by natives of New Guinea, or the Wildman of central China. Cryptozoologists remind the skeptic that hundreds of new animal species are identified each year, and that's not counting insects.

Following standard academic format, the ISC produces a yearly journal of fully-referenced research reports, ***Cryptozoology****. In addition, the ISC publishes the quarterly, informal* ***ISC Newsletter****, loaded with fascinating strange-animal news items as well as interviews with cryptozoologists and reports on their latest adventures in the field.*

The International Society of Cryptozoology
J. Richard Greenwell, Editor

$25/yearly membership (includes four newsletter issues and one journal volume) from:
The International Society of Cryptozoology
P.O. Box 43070
Tucson, AZ 85733



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Chinese historical documents contain many references to Wildman, a supposed large unknown primate reported today in numerous provinces. Scientific interest in Wildman in modern China began in the late 1950's, and intensified in the 1970's with fieldwork in northwest Hubei and southern Shanxi provinces sponsored by the Chinese Academy of Sciences. No physical evidence has been uncovered, with the exception of the hands and feet of a supposed Wildman. Morphological analysis indicates that they had belonged to a very large monkey species, possible a macaque, still unknown to science.

The preserved hands from the Jiolong Mountain "manbear" killed in 1957. The author's analysis indicates that they had belonged to a large unknown monkey species.

The Natural Cat

SUSAN RYAN: *I've finally found a great book on cats. It's very basic and, most importantly, holistic. The book contains a recipe for organic food, natural methods of eliminating fleas (commercial poisons used to kill fleas remain in the cats' fatty tissues forever), grooming and health tips, development of desirable behavior, and even how to prepare your cat so he enjoys traveling with you. Sensitive, interesting, natural, well written. It's a great reference book.*

The Natural Cat
(A Holistic Guide For Finicky Owners)
Anitra Frazier with Norma Eckroate
1983; 230 pp.
$11.20
postpaid from:
Kampmann and Co.
9 East 40th Street
New York, NY 10016
or Whole Earth Access

•

In training a cat, a dog, or a young child, it is most important that you be consistent. If there is something that you don't want the cat to do, such as jumping on a table when there is food on it, then don't ever invite the cat up onto the table. Never. Not for any reason. If you see the cat on the table, shove him or her unceremoniously onto the floor with a word of disapproval. You must keep it simple — not confusing.

•

Use your hands for stroking, petting, grooming, transporting, sometimes medicating, but never for play. To cats, play means teeth and claws — catch and kill. If they are not scratching, pouncing, and biting, it's not play, not really; it's love and cuddle. Show them from the start that hands and skin are for love and cuddle; toys are for play.

To comb the inner thigh, slip the stroking hand under the outside foot and gently lift it up. DON'T LIFT TOO HIGH because your cat must balance on three legs.

•

"Tuna junkie" is a phrase used by veterinarians to describe a cat "hooked" on tuna. The flavor is so strong that cats who eat a lot of tuna come to believe that tuna is the only thing that constitutes food — nothing else fits into that category for them. Tuna is used as an ingredient in a large majority of canned cat foods precisely because of its strong addictive properties.

•

To supply the contents of the mouse's stomach, we will use bran. To supply the minerals and roughage of the mouse's hair, we will use bran, again, and kelp. To supply something living, something still alive when your cat eats it: yeast. The yeast will also raise the quality of the protein in the entire meal and replace those B vitamins that were destroyed by heat during the processing of the can.

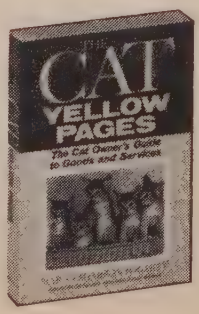
•

There are herbal flea collars available now. The main ingredient is oil of pennyroyal (and sometimes eucalyptus as well). Pennyroyal has a rather minty smell that fleas find unbearable. You can make your own herbal flea collar if you get oil of pennyroyal and saturate a pajama drawstring with it.

The Cat Yellow Pages

LYN GRAY: ***The Cat Yellow Pages*** *provided me with a thorough refresher course on the basics of cat ownership — how to choose your cat, what to do if you have a "fat cat," the timing of immunizations, just for starters. New (to me) concepts were there, too — home cooking for your cat, euthanasia, preventive medicine, and massage.* ***The Cat Yellow Pages*** *is a smorgasbord of listings and a great resource for: wholesalers and discount stores for pet food; manufacturers and distributors of grooming supplies, toys, and beds (yes, even heated water beds!); addresses of veterinary specialists; regulations of countries where you can take your cat; hot lines and humane societies; and an extensive, selected bibliography directing readers to additional information about subjects covered in the book. For the true ailurophile, there is a chapter on "Careers for Cat Lovers," and several chapters address cat breeding and showing.*

The Cat Yellow Pages
(The Cat Owner's Guide to Goods and Services)
Marna Sharron Fogarty
1984; 239 pp.
$14.54
postpaid from:
The Scribner Bookstore
597 5th Avenue
New York, NY 10017
or Whole Earth Access



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The ASPCA Animalport at New York's John F. Kennedy International Airport is the Western Hemisphere's oldest and largest shelter, catering exclusively to animal air travelers. Over the last twenty or so years of service, approximately one million satisfied animal customers, comprising more than 150 different species, have used its services. The Animalport has special accommodations for animals in transit, pets on stopovers, and pets of vacationing travelers.

For your convenience, Animalport drivers will pick up animals from your home or airline terminal for a small service charge. Call the Animalport well in advance to make arrangements. The address is:
Building 189
Air Cargo Center
Kennedy International Airport
Jamaica, NY 11430
Phone: (212) 656-6042

UPCO Animal Health Supplies

KEVIN KELLY: *Supplies for pet vets. Professional grooming tools, soaps and flea powders, travel cages, and household pet accessories at wholesale prices.*

UPCO: United Pharmacal Company
Animal Health Supplies Catalog
Free from:
United Pharmacal Co.
P.O. Box 969
St. Joseph, MO 64502

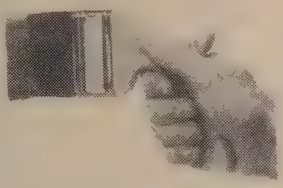
CURRY COMBS - Now remove cockleburs and other burrs and foreign material from the hair

	Retail	Wholesale
Each	$4.00	$ 2.70
Dozen		27.00

Comfortably Yours

STEWART BRAND: *"Aids for easier living" — a new kind of catalog, with stuff we've seen nowhere else. At first it looks like just make-it-easier-for-the-old-folks gear — bed and bathroom supports, easy-on clothes, nifty canes and walkers, etc. But it's really got the whole household gamut — pet gear, kitchen gear, energy gadgets, travel gadgets, exercisers. A swell gift for a parent or grandparent, this catalog, but keep one for yourself.*

Comfortably Yours
(Aids for Easier Living)
Catalog
Free from:
Comfortably Yours
52 West Hunter Avenue
Maywood, NJ 07607



▪

When my brother was overseas last year, he bought these unusual brushes for his children who had just moved into a 50-year old house. Sue and Fred claim that because of the pistol grip handle, the job went not only smoother and faster, but with much less strain and fatigue.

#G5039 PISTOL GRIP BRUSH $11.50

•

I searched everywhere to find these special kitchen utensils for my mother. Arthritis has left very little strength in her hands, so that preparing even simple meals has become increasingly more difficult. These large-handled kitchen tools were developed in Sweden after testing in their hospitals. The handles are angled to maximize existing hand strength, so that you don't have to bend your wrist, as you would with other utensils. This reduces the effort needed by up to 30% and makes cooking easier and more enjoyable. Quality stainless steel blades and plastic handles are dishwasher safe. (Handle color may vary.)

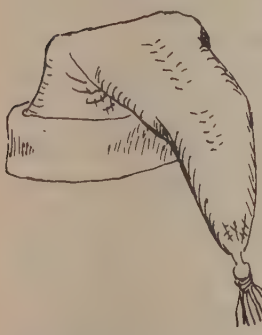
#G1411 SERRATED KNIFE $14.50
#G1412 2-PRONGED FORK $13.50
#G1413 CHEESE SLICER $7.50
#G1414 CARVING KNIFE $14.50
#G1415 PARING KNIFE/ SKEWER $8.00

•

We thought of all of you who have little serving, work or storage space when we saw this versatile cart. It's the only one we've ever seen that is spacious *yet folds to an incredibly thin 2¼" wide!* Well-designed, it has self-locking handles that make it extremely easy to open and close and is so sturdy it even holds my 19" T.V. Fully rotating quality wheels let you move the cart from room to room, indoors or out effortlessly. Made of easy to clean plastic coated metal. Measures 23"L × 15½"W ×28"H. White only.
No Gift Wrap Available.
#G5933 FOLDING CART $62.00

The American Historical Supply Catalogue

STEWART BRAND: *Good old stuff, some of it great old stuff, from all manner of mail order suppliers. Nineteenth-century furniture, clothing, kitchenware, building fixtures, clocks, stoves, tools, food, books, musical instruments, nautical instruments, toys, bathroom items, and even tours. A nice selection sumptuously illustrated. God what a relief from the like of "The Sharper Image" and other purveyors of ephemeral high-tech glitz.*



WOOLEN TOQUE

Pronounced "tewk," this headgear was worn by the French voyageurs, the coureurs des bois, and early militiamen. Available in white, red, and blue.

Price: $24.

Within the continental U.S., add $3 to cover the cost of UPS shipment.

Catalog of historical clothing and accouterments available, $3 (refundable with purchases of $30 or more).

Visitors are welcome to the La Pelleterie shop at the Fort de Chartres State Historic Site in Prairie du Rocher, Illinois.

LA PELLETERIE DE FORT DE CHARTRES

P.O. Box 627
Chester, IL 62233
Tel. 618/826–4344

CHARLES P. ROGERS BRASS BEDS

Established in 1855, the Charles P. Rogers Brass Bed Company is the country's oldest manufacturer. Their solid-brass beds are available in a good range of antique styles and reflect in their structure and design the manufacturer's allegiance to traditional construction techniques.

Color catalog available, $3.

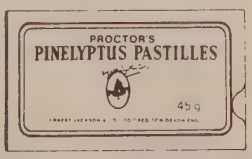
CHARLES P. ROGERS BRASS BEDS

149 West 24th Street
New York, NY 10011
Tel. 212/807–1989

PROCTOR'S PINELYPTUS PASTILLES

When singer John Denver sends to the Caswell-Massey Company for his caseload of these throat comforters, he may or may not be aware that Jenny Lind, the "Swedish Nightingale" of the 1850s, also was once the beneficiary of its soothing combination of pine, menthol, and eucalyptus. Miss Lind's order was placed with the apothecary by an admiring P. T. Barnum, who asked that she be sent "a little something—not too expensive—every week, wherever she is."

Price: $4 (plus $2 for shipping).



1884 MILK BOTTLES

"Your customers will be willing to pay more for milk if delivered in sealed bottles," advised the Sears-Roebuck catalogue of 1908. Jenifer House's milk bottles are reproductions of those used by the "Thatcher Dairy" in 1884 and have the desired airtight seals. That the bottles are embossed "Absolutely Pure Milk" should not limit your imagination in putting them to use at home.

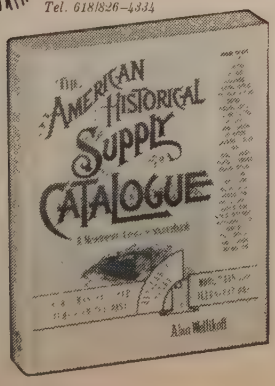
Price: set of three, $28.95, ppd. (add $1 west of the Mississippi). Specify clear, cobalt, pink, or amethyst glass.

Gift catalog available.

JENIFER HOUSE

New Marlboro Stage
Great Barrington, MA 01230
Tel. 413/528–1500

The American Historical Supply Catalogue
Alan Wellikoff
1984; 256 pp.
$17.95
postpaid from:
Schocken Books
200 Madison Avenue
New York, NY 10016
or Whole Earth Access



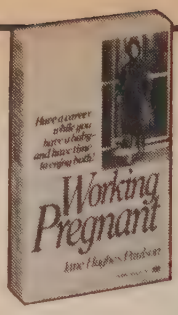
Working Pregnant

ANDREA SHARP: *I like this book. The overall approach is conventional — a nine to five job (panty hose and coffee breaks) and a hospital birth — but its value goes beyond the working woman. The whole perspective is down-to-earth practicality and reality. There's cogent advice on how to negotiate maternity leave, use child-care tax deductions to your advantage, and how to get your life organized with your new baby.*

In addition to all that, it gives plain, good, reassuring information about what's happening to you: what to eat, how to exercise, what to expect from a cesarean birth, and on to child-care choices. It is very readable and for $6.95 is definitely worth checking out if you are trying to decide whether to have a child or if you are already pregnant and need some support. I haven't found any faults with the perspective.

•

For many women how long to continue breastfeeding is a key issue. They feel that since they are returning to work soon after the baby is born, perhaps it would be better not to start breastfeeding at all. This is not necessarily true. It takes between seven and fourteen days for your milk supply to be established. The baby receives the immunity benefits during the first six weeks of nursing, and frequently it takes that long for the mother and baby to develop a good nursing rapport. If you have six weeks leave and are leaning positively toward breastfeeding, you might want to try it. If a deadline is not a particular concern, nurse as long as you and the baby enjoy it. If you are still breastfeeding when you return to work, you can continue to breast-feed successfully, supplementing while you are at work wth formula or milk pumped from your breasts. . . .
I found pumping too time-consuming and difficult after the first few months of breastfeeding and was much more comfortable and happy feeding the baby early in the morning before work, when I came home, and at bedtime. My milk supply adjusted to its new requirements, the baby adjusted to formula at his lunchtime, and we were able to continue on until we were ready to stop breastfeeding at around ten months.



Working Pregnant
Jane Hughes Paulson
1984; 244 pp.
$7.95
postpaid from:
Random House
Order Department
400 Hahn Road
Westminster, MD 21157
or Whole Earth Access

The Fit-or-Fat Target Diet

ART KLEINER: *Lose weight, hell! I wanted to reshape my body. First I tried changing my eating habits alone. Didn't work; I didn't know what to change them to. Then I tried aerobic exercise (mostly cycling and running), using Covert Bailey's* ***Fit or Fat? (NWEC*** *p. 319) as my guide. I gained muscle and toned myself, but I still felt basically misshapen. What I wanted took both exercise and diet. This book (also by Covert Bailey) is the only one I looked at that offered clear help, without a simpering, patronizing tone. It's also the only one whose advice made sense: fatty foods cause fat. Most of the book is an extensive analysis of which foods are fatty and why. Something clicked and I gave up most fatty foods (and kept up with aerobic exercise); now my body is the way I want it to be for the first time in my life.*

•

To achieve a perfect diet, you need obey only four rules:

1. Be sure to eat a balanced diet.
2. Select foods that are low in fat.
3. Select foods that are low in sugar.
4. Select foods that are high in fiber.

If you follow these rules, you needn't worry about cholesterol, saturated fats, vitamins, trace minerals, or most of today's other nutritional concerns. You don't even have to worry about preservatives or other additives in food. In short, observe the four basic rules, and the rest comes without asking.

•

So never talk about *weight* loss again! Force yourself to use the term *fat* loss — and never adopt a program that endangers body protein. Knowing that your muscles are the only place where excess fat can be burned, you mustn't start any diet program that might impair your muscle efficiency. Stay on a good diet and exercise so your muscles will increase both their energy production and their heat production, enabling them to burn even more fat.

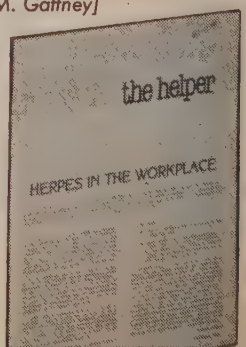
The Fit-or-Fat Target Diet
Covert Bailey
1984; 138 pp.
$6.95
postpaid from:
Houghton Mifflin Co.
Attn: Mail Order Dept.
Wayside Road
Burlington, MA 01803
or Whole Earth Access

The Helper

C. CRAIG: *A week after my shining knight went off into the sunset, I discovered he had left me with a painful case of herpes and considerable guilt. The guilt I got over; the herpes . . . well, it stays for good. And with it came the realization that, despite media coverage, I knew damn little about herpes. I had, for instance, not recognized an obvious warning sign — the cold sore on his lip. The next question was: where do you find current, non-judgmental, and accurate information? With more than 10 million cases of herpes in the U.S., it wasn't an idle question. The best source I found — one that is empathetic without coddling — is the Herpes Resource Center, a non-profit education and information center. Their $20 annual membership fee is used to help fund ongoing research. It gets you their quarterly newsletter,* ***The Helper****, which keeps you current about vaccine and therapy research, covers the emotional and social issues of herpes, answers questions, reviews recommended books, and includes a list of local groups around the country that meet to help people deal with their concerns in a supportive, human setting. If you're concerned about the nature of the subject and its arrival in your mailbox, don't be: the newsletter arrives in a "discreet" package.*

[Suggested by J.M. Gaffney]

The Helper
John Graves, Editor
$20 annual membership (4 issues)
from:
Herpes Resource Center
Box 100
Palo Alto, CA 94302
Information free
with SASE

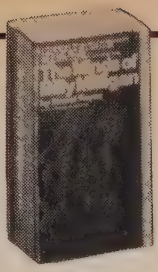


The Minds of Billy Milligan

KEVIN KELLY: *This is a true account of William Milligan, who claimed to be divided into 24 separate individual personalities, some of whom kept the unified "Billy" asleep for seven years while the various personalities would step into the "spotlight" and act in Billy's stead. His persona ranged in ages from three to twenty-three, were male and female (one was a lesbian), had different IQs, spoke with different accents (one was fluent in Arabic), behaved with different mannerisms, and even looked different.* ***KATHLEEN O'NEILL:*** *I was totally prepared not to believe this outrageous story, but after four chapters I totally believed it. The paintings they did of each other are neat.* ***JAMES DONNELLY:*** *Yes, the story kind of blunders and stumbles along like real life, not like a novel.* ***JAMES STOCKFORD:*** *I'm of two minds about it. What happened is too far from what's in me, but I believe it. I identified with the personality Tommy, the sassy juvenile delinquent.* ***ART KLEINER:*** *To me this story is a mirror of what goes on in all of us. By the time I finished I could hear the individual voices in myself. I felt spooky, frightened to imagine what it would be like if they were cut off from each other, like in Billy.*

•

In her testing, Dorothy Turner discovered significant IQ variation among the different personalities: Allen, 120; Ragen, 119; David, 69; Danny, 71; Tommy, 87; and Christopher, 102. Christene was too young to be tested, Adalana would not come out and Arthur declined to take the IQ portion of the tests, saying it was beneath his dignity.



The Minds of Billy Milligan
Daniel Keyes
1982; 443 pp.
$5.20
postpaid from:
Bantam Books
414 East Golf Road
Des Plaines, IL 60016
or Whole Earth Access

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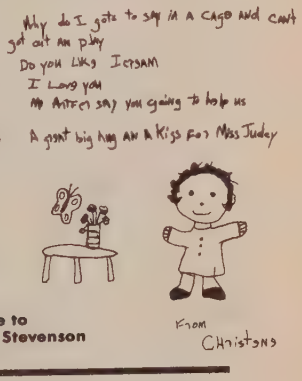
Ragen knew some of the other people who shared his body. He knew Billy, whom he had known from the beginning of his own consciousness; David, who accepted the pain; Danny, who lived in constant fear; and three-year-old Christene, whom he adored. But he knew there were others as well — many others he hadn't met. The voices and things that happened couldn't be explained by just the five of them.

•

"Think of it," he said, "as if all of us — a lot of people, including many you have never met — are in a dark room. In the center of this room is a bright spot of light on the floor. Whoever steps in this light, onto the spot, is out in the real world and holds the consciousness. That's the person other people see and hear and react to. The rest of us can go about our regular interests, study or sleep or talk or play. But whoever is out must be very careful he or she doesn't reveal the existence of the others. It is a family secret."

"Ragen Holding Christine." Pencil sketch by Allen. Christine spells her own name with an "e" — Christene — whereas the other personalities spell it as usual, with an "I."

"Landscape." Oil painting by Tommy



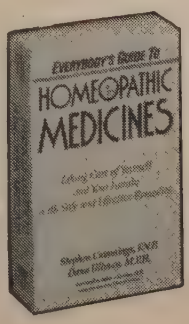
Christine's note to Attorney Judy Stevenson

Homeopathic Medicines

SALLIE TISDALE: *Homeopathy, a 200-year-old healing system, is in the midst of an exciting resurgence in the U.S.*

Homeopathy focuses on the whole person and views disease as an imbalance in the body which allows "symptoms" (ordinarily viewed by medical doctors as the disease itself) to develop. Ullman and Cummings show the layperson how to take a homeopathic "case," determine the appropriate remedy, evaluate its effects, and administer and care for the remedies properly. The authors succinctly show the parallels between homeopathy and allopathy (traditional medicine) and also offer parameters for when an acute illness should be seen by a medical physician. An excellent introduction to a philosophy of health that deserves to be more widely used.

Everybody's Guide to Homeopathic Medicines
Stephen Cummings, F.N.P.
and Dana Ullman, M.P.H.
1984; 324 pp.
$9.95
postpaid from:
Houghton Mifflin Co.
Attn: Mail Order Dept.
Wayside Road
Burlington, MA 01803
or Whole Earth Access



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Homeopaths see the presence of microbes as the *result* of disease, and they understand the "disease" to be the preexisting susceptibility of the person to infection — the constitutional weakness previously discussed. For instance, that a throat culture shows *Streptococcus* bacteria are growing in a child's throat does not necessarily mean the germ *caused* the illness. The problem is that the child's defense system is not as strong as it could be, and this weakness created an environment conducive to the growth of bacteria.

•

Arsenicum Album
Arsenious Acid; White Arsenic

The distinctive symptoms of *Arsenicum* include great restlessness and fear, severe weakness and exhaustion, intense chilliness, burning pains, and aggravation of the symptoms at night. Whenever this distinctive group of symptoms appears, *Arsenicum* is the curative medicine, whatever the local symptoms may be.

BACKSCATTER

Readers respond to previous Miskito articles

An ignoble cause

I hope that a year-and-a-half of living in a Miskito Indian village will entitle me to contribute something — reason or rationality, perhaps — to the sometimes inane and sometimes insane war of words over Barney Nietschmann's "Nicaragua's Other War: Indian Warriors vs. Sandinistas" (**CQ**, Summer and Fall 1984).

By playing "My expert is bigger than your expert," Roxanne Ortiz attempts to convince us that Nietschmann's reportage has errors. Could be. War reporting is often imprecise as to numbers. But it's rarely wrong in conveying the general truth about what has taken place.

The nasty facts are these:

1) The Sandinista revolution did not wipe out several hundred years of enmity between Spanish-speaking Nicaraguans and Miskito-speaking Miskito Indians. Most Nicaraguans didn't think of Indians as equals capable of self-governance in their own territory before the revolution, and a mere change of government ideology did not suddenly cleanse everyone's soul of racial hatred. . . .

2) The Miskito Indians have been in what is now Nicaragua a lot longer than Nicaragua has been a political entity. If the Sandinistas wanted to do something really revolutionary, they would ask the Indians to be so kind as to cede *them* a small area of the country in which they might presume to live peacefully and eke out their subsistence.

Ortiz, committed to the ideological beauty and purity of the revolution, misses a rather large point. Why in hell should the Indians be asking the Sandinistas (or Somocistas, or anyone else) for anything? It is not the Sandinistas' land, or natural resources, or indigenous language, to give.

The U.S. created Nicaragua for its own purposes, and propped up a couple generations of Somozas. The U.S. didn't recognize the Miskito territory, and the Sandinistas don't recognize the Miskito territory. It's that simple. As one Miskito once told me, "Hog is hog, and dog is dog. Can't change." The Somozas were pigs, the Sandinistas are dogs, and the Miskito man was quite correct.

3) Anyone with an understanding of the Miskito would know the utter absurdity of thinking the Indians in any meaningful way support "the revolution." They didn't support the Somoza government because they don't trust Spanish-speaking Nicaraguans. Dress those same kind of folks up as Sandinistas and you still have Spanish-speaking Nicaraguans. And guess what? The Miskito still won't trust them, for all the same reasons, all of which have proven true time and again. The wheel has indeed turned, but it certainly hasn't made a revolution.

Nietschmann sees Noble Warriors, and Ortiz sees a Noble Revolution. I see nothing noble. It's a nasty little racial war. Remember two facts — that Nicaraguans have never liked the Miskito and that the Miskito have never liked the Nicaraguans — and an awful lot of what's going on in Nicaragua's Miskito Territory will come into focus. But it's not a very pretty sight.

Brian Weiss
Santa Monica, California

A disenchanted believer

I lived among the Miskitos on the Rio Coco as a missionary from 1944 to 1978. I was anti-Somoza. During that time I witnessed four "elections," and on two occasions I went to the U.S. Embassy in Managua to explain the fraud that I had seen, and urge free elections. Also, I was a Sandinista supporter during the early months after the Revolution, and I urged our government's support for the new Nicaraguan regime.

In her article, Roxanne Dunbar Ortiz says that she is "acquainted with the Miskito situation." So am I, having lived with them for 34 years. There are some things regarding the Miskito situation that we do not agree on. For example:

. . . Roxanne says that when the Sandinistas evacuated the people from their villages on the Rio Coco, in order to protect them (it's not clear from whom they were being protected), the "Miskitos fled in all directions, and thousands were trapped inside Honduranian territory." I agree that "fled" is certainly the right word, however, they did not flee "in all directions." Rather, all who were able to escape capture fled (not in all directions, but all in one direction) north, across the Rio Coco to freedom and safety in Honduras. It is interesting to note that thousands of Miskitos did not flee into territory controlled by the Sandinistas, but rather they sought protection by fleeing in the opposite directon, into the territory from where "the U.S. sponsored invasion" was coming. So perhaps they were fleeing from the Sandinistas, and really needed protection from them.

I spent last January visiting the refugee villages in Honduras, where 25,000 have found refuge . . . Judging from what I heard and saw, none of the two to three thousand Miskitos who were captured when the Sandinistas sacked and burned their villages on the Rio Coco, and who are now being held there in Sumubila against their will, would agree with Roxanne that the Sandinistas are out to promote their self-determination, or support their aspirations. In reality, their self-determination has been crushed, and their aspirations have been trampled upon.

Phil Casper
Hayden, Arizona

A significant misspelling

. . . I have lived and worked among the Miskito Indians for about 18 years. I was a foreign missionary in Nicaragua and lived among the Miskitos in the Rio Coco district. I had my main mission in Waspam where I had a school, a convent, a clinic and a small hospital. I also had many villages under my jurisdiction and visited them from time to time. They included Ulwas, Saupuka, Biswaskarma, Leimus, Saulala, Kwiwitingi, etc. I also am the editor of the first Tri-lingual Dictionary ever published in Nicaragua. It is in three languages: English, Spanish and Miskito. It took us 10 years to finish . . . Therefore I am deeply familiar with the Miskito Indian language, their culture, their customs, their form of life, their sufferings, their aspirations, their struggles, etc., etc.

If Miss Ortiz is an expert on Indian affairs, she should know that the correct word is Miskito not Miskitu. Another outstanding error is that she mentions Dr. Mirna Cunningham as a Miskito medical doctor. Dr. Cunningham assisted at my school for many years in Waspam. She is not a Miskito Indian but a Creole (negro). I knew her whole family very well . . .

I just wonder how many years Miss Ortiz spent among the Miskito Indians.

Rev. Charles Repole O.F.M. Cap.
Our Lady of Montserrat Church
Stamford, Connecticut

DIVIDED THEY FALL

MAP BY DON RYAN

THE MISKITO INDIAN CASE IN NICARAGUA: A REVIEW

Text and photography by Will Baker

MY PARTICULAR ASSIGNMENT WAS TO EVALUATE certain charges made by Dr. Bernard Nietschmann and others: charges which excoriate the Sandinista revolution's treatment of the Miskito people of the Atlantic Coast of Nicaragua; charges which supporters of the revolution and some defenders of Indian rights vigorously refute.[1] As a point of entry into this complicated, acrimonious, and ongoing argument, I want to summarize the case for the prosecution as follows:

1. The Sandinista government (often referred to here as "the Frente") is accused of "widespread" and "systematic" violations of the human rights of the Miskito population (including murder, rape, torture, detention);
2. the Frente is accused of expropriating the land and property of the Miskito people and curtailing their freedom of movement and expression;
3. the Frente is accused of failing to provide food, medical care, and education to Miskito villages;
4. the Frente is accused of pursuing these policies in order to annihilate Miskito culture and integrate this ethnic minority into the "revolutionary masses," thus consolidating government control of the Atlantic Coast and its resources.

There are additional charges of continuing forced relocations of villages and the denial of religious freedom, but such matters are really ramifications of the four main issues given above, which I have arranged in my own order of importance.

At the outset I must make clear that I cannot *directly* confirm or deny any specific charge in Dr. Nietschmann's testimony (published in several places besides *CQ* and formally presented to the Commission on Human Rights of the Organization of American States). Nietschmann travelled extensively in the southern Atlantic region, which I did not reach, and conducted most of his inquiry in regions controlled by anti-Frente Miskito "warriors." I was limited, both by time constraints

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It was Jay Kinney and Stewart Brand's idea to send Will Baker south to Nicaragua. A tide of wonderfully conflicting versions of the Nicaraguan unrest has enveloped our offices since Jay (then editor) published Bernard Nietschmann's provocative article "Nicaragua's Other War" in the Summer '84 CQ. *Professor Nietschmann argued that the Miskito Indians of Nicaragua resisting the socialist Sandinista government were not fighting for democracy, or for the values of the other rightist groups, but solely for Indian land and Indian freedom. It was the Fourth World against the Third: they would use whatever help offered, even if that meant CIA aid. In the Fall '84* CQ *we presented the rebuttal of Roxanne Dunbar Ortiz, an American Indian activist, who countered that Nietschmann's allegations were undocumented absurdity, that in fact the Sandinistas and Miskitos support each other, and that the hardship the Miskitos have suffered is primarily caused by the eagerness of the CIA to incite and rile the Indians against the new Sandinista government. That's basically the conversation so far, as Will Baker (author of* Backward: An Essay on Indians, Time, and Photography), *fluent in Spanish, returns from a fortnight in worsening Nicaragua with this examiner's report.* —*Kevin Kelly*

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and by government security measures, to the area immediately surrounding Puerto Cabezas. In addition to visiting *barrios* in Cabezas and two outlying communities, Lamlaya and Camla, I conducted interviews with government officials (Nicaraguan, Honduran, and U.S.), church leaders, U.N. officials, Nicaraguans and Miskitos in the field and on the street, and Americans working in Managua as agricultural advisers, company representatives, or press.

These limitations produced a single small advantage. I was in Puerto Cabezas long enough to make a few tentative friendships, to cross-check certain rumors, and to get a sense of the quality of daily life, but not long enough to become identified with any faction of the community. For the most part, because I was a transient and outsider, people seemed willing and eager to tell me the "truth," though their versions of this abstraction varied marvelously. In a few cases, I got a definite impression of distortion or omission; in others, people sought me out to give impassioned testimony.

My first interview, an extensive one, was with Dr. Mirna Cunningham and Fornes Rabonías. She is currently the delegate to the National Assembly from Zelaya (the largest province and sector of the most serious conflict with the *contras*), a Miskito with a medical degree and a former leader in the now disbanded MISURASATA, an organization established to represent Indian interests in the new revolutionary government. Rabonías, also a Miskito, has just been elected president of a new group, MISATAN, designed to replace MISURASATA. Both Cunningham and Rabonías travel regularly back and forth from Managua to the Atlantic Coast, and both are directly familiar with the history of the troubles between the Frente and the Miskito people.

I read them Dr. Nietschmann's principal accusations and they called his statement "all lies." Dr. Cunningham remarked that she was familiar with the American's careful work as an ethnographer. It was astounding,

Defenders of the revolution step smartly before the reviewing stand, showing the Comandantes Sandino vive!

If groups of armed men appear on one's doorstep and appear to be hungry, it is a wise choice to feed them.

she said, that he supplied no names, dates, or locations — no verifiable evidence — to back up his charges of rape, murder, and torture supposedly committed by the Nicaraguan army. Her explanation for this disparity was that Dr. Nietschmann was being paid for lying.

I mentioned that Nietschmann told the OAS Commission that he was withholding such specific information to protect the security of his informants, many of whom are hiding in encampments in Nicaraguan territory, and this observation evoked cynical smiles. Pursuing the point, I referred to documents in which the government admits certain violations by its soldiers — in particular arbitrary arrest — and to the reports confirming a few executions and many detentions and interrogations of Miskito citizens.[2]

In an extensive qualification, Dr. Cunningham granted, first, that some violations occurred a year or more ago; and, second, that a nation at war must guarantee domestic security even at the risk of abrogating normal judicial process. She emphasized, with some heat, that there is great difference between the crimes of individual soldiers or police and a "policy" of persecution. She cited the 1983 amnesty decrees for Miskito activists as one sign of the government's good faith and, as another, the prosecution of some field officers for mistreatment of civilians. It is worth remarking here that several human rights groups have verified the Frente's castigation of offenders from its own ranks, and one, Americas Watch, comments that it is the first time in their experience that a government has sentenced its responsible representatives to prison for human rights violations.[3]

The controversy really turns, therefore, on the veracity of such adjectives as "widespread" and "systematic." The question is not *whether*, but how often and with what motive the Frente's army and security apparatus have wronged the Miskito people. As Nietschmann presents the matter, atrocities are routine in the contested areas of the coast. Cunningham insists that abuses are rare aberrations on the part of individuals far from command headquarters.

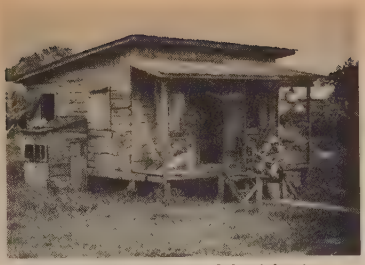
Both Cunningham and Rabonías threw back the charge that *contra* soldiers have murdered innocent civilians, including women and children. Pointedly, they supplied names and dates. They add that some of these *contras* are Miskitos, who presumably have relatives or friends in certain villages. The implication of course was that the detention and questioning of such sympathizers would be standard procedure in any country trying to control an insurrection.

It seems reasonable to conclude that harsh interrogations, beatings, and executions are more likely to occur in remote areas where the Frente suspects the presence of collaborators — the very places Nietschmann visited — and much less probable near the government's centers of command, where Cunningham and Rabonías spend most of their time. We should not therefore be astonished that two astute, responsible professionals can

disagree so profoundly. Our experience in Vietnam ought to remind us of the labyrinthine horrors of counterinsurgency and search and destroy operations — for years these clinical military terms masked tortures, betrayals, massacres, desertions, confessions, cover-ups. War brings monstrous forces to bear on the human spirit, forces that warp perception and judgment, making the sincerest and most conscientious thinkers into apologists, monomaniacal critics, or ostriches.

My own experience confirms elements of both positions. Like Nietschmann I must sometimes (reluctantly) omit names, dates, and places to prove my assertions, because I detected in many informants a fear of reprisal. Whether justified or not, this fear commanded my respect. On the other hand, I must agree with Cunningham that the tension, anger, and confusion generated by frequent ambushes and attacks is probably responsible for whatever indiscriminate violence occurs, rather than any policy of "genocide."

Miskito people and others who work with the Miskito — the majority of those I spoke with — confirmed that arrests and interrogations are common enough. Others refused to say anything except that talking about such things made them "afraid." Sources that seemed to me reliable claimed that there are special facilities for those considered most troublesome, including "tiger cages" in which a prisoner cannot stand up or lie down full-length. I was told also that detainees were often held for up to a month before being "cleared" and released, and that a month in the squalor of the local prison would leave most men weak and ill. Sometimes, it was said, the only sure way to be "cleared" is to promise to inform on others. It seems to be undeniable that under the pressure of combatting a guerilla force with indigenous roots the Frente has resorted to severe and highly unpopular measures. At the same time the government has been quick to admit its more blatant errors, and by comparison with the regimes in Guatemala, El Salvador, or Chile, it is a model of forthright self-criticism.



Typical Miskito shanty of the Atlantic Coast. Rough-sawn lumber comes from a local mill, one of the few industries still functioning.

The only enduring direct links to Managua are the radio and a battered, oil-spotted DC-6.

On the other hand, the threat to the government's stability is very real, and growing. Early this summer legations of various kinds were regularly visiting Tasba Pri and Sangnilaya, two of the settlements set up for the Miskito who were summarily evacuated from the Rio Coco two years ago. Three days before I arrived, a pickup full of telephone linemen and civilians was ambushed only 40 kilometers out on the road to Tasba Pri, and nine of the sixteen passengers killed. I learned also that the rebels often mine the road — a procedure that could be labelled indiscriminate killing — and the stretch of it between Sumibila and Traslaya has become a graveyard of burned-out truck and auto carcasses.

First I was told the TelCor crew was unarmed, but I interviewed the two employees who survived the attack, still in bandages, and they told me they had carried five weapons. The civilians who died were probably all grown men and mestizos from the Pacific Coast, for the chief of security, who reported this ambush to me, would not have missed an opportunity to indict the *contras* for firing on women, children, or Indians.

At any rate, a Swiss journalist from a communist paper and I were both denied permission to hitch a ride to Tasba Pri. Our security could not be guaranteed, we were told. Both of us learned from independent sources that some traffic had resumed. An inadvertent remark by another officer led me to believe that there was another reason for our containment. The gist of the remark was that Sangnilaya itself was not secure, because many of the Miskito there want to return to their homeland on the Rio Coco and are suspected of passing food and information to the guerilla warriors.

It should be noted here that the Miskito warriors in MISURA (the rebel organization operating out of Honduras in alliance with the FDN "Somocistas") do not have a spotless record. They, too, have executed civilians, beaten captives.[4] I spent two hours interviewing a 34-year-old teacher, Manuel Espinales, who said he and 50 others, mostly students between 13 and 17, were abducted on July 15 by a force of 150 warriors. Nineteen of the captives escaped during the flight into Honduras, as the force retreated under fire.

Espinales said his life was threatened. "Kill him," he overheard one officer say; "the teachers are always communists." When the remaining 32 captives reached Mocorón, the chief refugee camp in Honduras, they were visited by U.N. representatives, and Espinales and eleven others asked to be repatriated. At the airport the MISURA leader Steadman Fagoth organized a massive demonstration and kept Espinales and three others from getting on the plane.

Then, Espinales says, he was moved to the MISURA headquarters and there Fagoth swore at him, beat him, and threatened to have his relatives in Nicaragua killed — "and all the rest of the communists." He says Fagoth

told him, "You don't have the right to die in Nicaragua — you'll die here with us."

The next morning a woman from the U.N. High Commission on a routine visit took a scribbled note from Espinales. The U.N. staff responded to his plea for asylum and called the Honduran army to send troops into the MISURA headquarters to rescue Espinales, who assured me he would otherwise have been executed. He was subsequently flown back to Nicaragua and is now living in Puerto Cabezas.

A director of World Relief, the private foundation which administers the U.N. refugee program, confirmed that Espinales was rescued from a dangerous situation and added that "more than 200" other Miskitos in Honduras have petitioned for repatriation. From others working with the refugees I heard reports of forced recruitment of youths as young as 14 into the MISURA army, and of an increasingly secretive and authoritarian streak in that organization. This hearsay has little value beyond confirming a truism: military discipline and élan do not foster a free and open life.

Both the Frente and MISURA claim that their tactic is to "protect" the Miskito population, to "secure" areas and defend the inhabitants against barbarous assaults. Both claim to have the support of the villages they protect. I met Miskito people who did indeed support one side or the other, and many more — the majority — who had reservations about both and were manifestly sick of the whole business. Common sense can tell us that this "support," for both sides, must be partly explained by the ordinary human instinct for survival. If groups of armed men appear on one's doorstep and appear to be hungry, it is a wise choice to feed them. If a government offers to send food or doctors to a community, it is equally wise to make a show of gratitude and solidarity. If I may be allowed to mint a new proverb: two faces are better than no head.

The restrictions on travel and the jittery atmosphere in Puerto Cabezas suggest that MISURA

Members of the Armed Forces lounge before a quote from their leader, Defense Minister Humberto Ortega, on Army Day (September 2, 1984).

A few thousand armed dissidents can bring down the government of a small, poor country without self-reliant industries.

and its ally, the FDN, have, as Dr. Nietschmann asserts, gained control of large blocks of territory in the northeast coast. The MISURA warriors are all Miskito, fighting on their own terrain, and many of them have serious grievances against the Frente — all of which probably gives them the advantage both strategically and psychologically.

In Honduras I talked with warriors who said they moved regularly in and out of Nicaragua, spending as long as four months in secret camps where they lived on fish, game, and bananas; their office manager in Tegucigalpa, a crippled man who walks with a cane, said even he had safely reentered Nicaragua with a large detachment of MISURA warriors. Journalists from *Newsweek* and CBS told me they had travelled with contingents of up to 1500 troops, fanning out into the bush beyond the Rio Coco to set traps many miles in circumference.

I conclude that Dr. Nietschmann's account of the military situation is accurate: the Frente faces an insurrection throughout the Atlantic Coast, though they maintain control of the principal cities (Puerto Cabezas, Bluefields, San Juan del Norte) and the resettlement camps. I would agree also that there are evident grounds for the first of Nietschmann's allegations. However, the claim that violent crimes are "widespread" and "systematic" is less dependable. A prominent Miskito warrior, Elmer Prado, himself characterized many of the Frente troops as frightened boys without deep commitment, let alone bloodthirsty fanaticism, who often surrender after a few days of the mud, heat, and insects of an alien jungle.

In addition, the whole issue of "human rights" becomes ironic, even absurd, in a war. If a rebel mine blows up a woman and a child, is this any less of a "violation" of their "human rights" than when a scared, angry young Sandinista machine-guns them?

It seems to me very likely that there is truth in the atrocity stories from both sides, that at the intensifying edge of a guerilla war combatants are going to inflict brutal punishment not only on one another, but also on the civilian population. Again we may cite Vietnam: Remember the difficulty of distinguishing the "friendlies" from "Charlie"? The effort to win the "hearts and minds" of a suspicious populace? The villages destroyed as a "protective" measure? The eventual collapse of all pretense at "pacification" and the unleashing of indiscriminate, murderous military power?

With regard to the second and third accusations, one clarification would be useful at the outset. Although some critics have presented expropriations, harassment of churches, and the failure to insure basic social services as examples of discrimination directed against Indians on the Atlantic Coast, in fact these charges have been leveled against the government by many other groups — organizations representing landholders on the Pacific side, factions within the Catholic and Moravian churches, and the opposition parties and press. In this sense, the Indian communities' complaints are only

a regional version of the Frente's general political and economic problems. There is no doubt that the government has expropriated property in every region of the country — houses, businesses, tools, vehicles, stock, commodities, money — in the name of a fairer distribution of wealth. They have also censored the press and imposed various sanctions on disaffected churchmen, some trade unions, and the few remaining organizations that promote private enterprise.

In the case of the relocation of Miskito villages away from the Rio Coco (the common border with Honduras), the government "expropriated" property primarily to destroy it — burning buildings and crops, slaughtering stock — or as a security measure — confiscating boats and guns. I would refer an interested reader to the OAS report in which this scorched earth policy is criticized for its summary execution, but justified as a response to the attacks launched across the border by guerillas.[5] The relocation was difficult and painful (much of it accomplished on foot), but the Commission found no evidence of malicious abuse or arbitrary violence, and argued that international law allows a sovereign nation to evict its citizens from war zones, providing such displacement does not entail human rights violations.

There is also no doubt about the Frente's circumvention of due process in the arrest and incarceration of hundreds of Miskito people during 1982 and the spring of 1983. It is important — very important, I think — to remark that the most convincing proof of this charge is the Nicaraguan Supreme Court's overturning of more than a hundred verdicts and the removal of the District Judge responsible for handing them down, and the subsequent amnesty decrees which allowed the release of a large majority of the Miskitos still in prison. This reversal took only a year — a dumbfounding speed by comparison with the pace of our own judicial system.

These "gestures" have been dismissed by opponents of the regime as cold-hearted ploys to regain international credibility

Miskito children from the school at Camla: Reading and Writing and Revolution.

The question is not whether, but how often and with what motive the Frente's army has wronged the Miskito people.

or to avoid giving the Reagan administration any excuse for further intervention.

An alternative explanation is surely possible. The Frente, by its own admission, overreacted to MISURASATA's formulation of plans for regional autonomy. When angry Miskitos formed into a guerilla band and attacked the military outpost at San Carlos in December, 1981, the government realized it was faced with an embryonic insurrection and took the drastic step of evacuating whole communities to camps in the interior of the country. Hearing of these relocations, 8,000 Miskitos fled to Honduras to join the rebels, who were soon able to field a considerable force, well-armed and equipped by the CIA.

In this atmosphere of hostility, fear, and confusion, convinced that the U.S. was trying to tempt them into an incursion into Honduran territory that would justify an invasion, the Frente paid little attention to "due process"; apparently they locked up any Miskito whose loyalty was questionable. (More than one observer has been reminded of the U.S. treatment of Japanese citizens at the outbreak of World War II.)

The Miskito people were understandably angry, frightened, and intimidated by such imprisonment. More fled — most recently Bishop Schlaefer (a Moravian) and about 1200 Miskitos — or developed sympathy for the raiding warriors. The government was then embroiled in a war on two fronts: they had to resist an increasingly well-supplied and organized guerilla army able to penetrate deeply into the coastal region, and they were also engaged in a propaganda battle for the allegiance of the Indian population.

To make headway in this latter struggle, it was necessary to compromise the former: resources vital to the military effort had to be devoted to transporting and feeding refugees; trying to establish a reputation for fairness and mercy required the release of potential critics or defectors or even saboteurs; convincing the Miskito that the government was responsive to their needs mandated the launching of all kinds of schemes for land reform, cultural enrichment, health care, technical assistance, etc., schemes whose execution often requires military protection yet drains manpower and material from the war effort.

It should be recalled again that Nicaragua is a very small, very poor country, which faces a very large, very rich adversary. To its credit, the Frente has finally recognized the danger of alienating further the Indians who occupy its most vulnerable region. The government is striving to correct past mistakes and furnish evidence of progress, promise of a better life. They have brought potable water to Puerto Cabezas, paved the main road, and strung the first telephone wire to Managua. In the last year the office of Agrarian Reform has granted land titles to dozens of Indian communities, and is busy thrashing through the paperwork to provide such titles to remaining communities. The motive behind this self-criticism and movement toward social justice may be a cold calculation to buy time;

but the confused and sometimes erratic source of the Frente's approach looks much more like a desperate attempt to survive, and survive without betraying the revolutionary ideal of organizing the masses to improve their own lot.

The task is overwhelming. The OAS report, for example, nags the Sandinista government for not giving adequate warning of its decision to relocate villages, so that "independent observers" could be called in to evaluate the move. It reproaches the government also for not pledging compensation to the displaced Miskito, for not providing housing soon enough, and for losing track of some prisoners. The simple fact is that the Frente has neither the resources nor the ability to accomplish such goals.

Worse, as a socialist regime they are held responsible for delays and shortages everywhere. Supplies now reach Puerto Cabezas by a very roundabout route: by truck to Rama, barge to Bluefields, and steamer along the coast to home port. Basic goods are strictly rationed and very scanty. The army depends increasingly on young, green troops from the Pacific Coast. The telephone line is continually cut. Offices have no copying machines and few typewriters, sometimes not even paper clips and envelopes. The national currency, the cordoba, is practically worthless outside the borders of the country. Everyone is underpaid, and Frente officials admit that after the fall of Somoza a great many doctors, lawyers, engineers, and other highly skilled Nicaraguans left the country. They now rely on some Cuban doctors and teachers, they say, because they can't find Nicaraguans willing to brave the mortar fire and humidity of the Atlantic Coast. In any case the coast cannot expect much from the rest of the country. The only enduring direct links to Managua are the radio and a battered, oil-spotted DC-6; and both of these are always imperiled by the violent and unpredictable weather of the Caribbean.

The third accusation, like the OAS charge of imperfect administration and control, is therefore easy to substantiate. The Frente

The people of the coast are not, by any stretch of fancy, simple aborigines surviving with digging sticks.

has indeed failed to supply "sufficient" food, seed, tools, and medical care to many villages. The response to these charges is equally clear and unequivocal. They can't. Even without the tremendous cost of recruiting, training, arming, and transporting the largest army in Central America, the Frente would have a formidable task in the economic development of the Atlantic region, where the most accessible resources — gold, timber, soil, seafood — were stripped by profiteering companies decades ago. The critics of Sandinista domestic policies seems to me to miss the point: *every* Central American country, with the possible exception of Costa Rica, has failed to build a just, prosperous, and independent society, whatever its political coloration. For Indians throughout the region — in Honduras, Nicaragua, Guatemala, El Salvador, Mexico — the only real political question seems to be which president or general they will starve under.

The final charge is the most crucial and the most complicated. Those who support the MISURA and MISURASATA guerillas believe that the Sandinista government aims to assimilate the Miskito (also Sumu and Rama) people into the revolution, and this assimilation would entail the destruction of the Indians' language and culture and the exploitation of their lands. As evidence they can point to the Frente's first policies on the Atlantic Coast: functionaries of the literacy program arrived and began teaching only Spanish; by decree all land except small parcels under private ownership was nationalized, including territories traditionally utilized by Indian villagers; the new leaders (Commandantes Ortega and Ramirez) admonished the people of the area to think of themselves not as Indians but as campesinos united in a class struggle against imperialism. The Indian and Creole populations, outside the influence of Managua for centuries, responded with militant protests and out of these emerged an exactly contrary plan: Miskito leaders called for regional autonomy, instruction in native languages, and control of their land and resources.

For a few months the Frente and MISURASATA tried to negotiate, but the government's hasty and harsh action of arresting hundreds of Miskito leaders in 1981, a few days before the release of a land study that recommended ceding some 38 percent of Nicaragua to Indian control, precipitated the mass flight to Honduras and subsequent armed resistance. Since that very grave mistake, the Frente has tried to recover the confidence of the indigenous population by granting land titles, beginning bilingual education, and promising to earmark 80 percent of the income from natural resources for Indian use. Neither this indication of generosity nor the offer of amnesty has won any show of flexibility from the rebel Indians. There are rumors that the government is negotiating intensively with Brooklyn Rivera (head of what is left of MISURASATA, in exile in Costa Rica) to achieve his repatriation, but Fagoth now aligns MISURA with the FDN strategy — also the CIA strategy — which is simply to destroy the Sandinista government.

Again I believe it is helpful to view this matter in a larger context. Almost every nation in Latin America must deal with the problem of cultural minorities, usually Indian or the black descendants of slaves brought from Africa, whose integrity and livelihood are threatened by a dominant culture. Sometimes there is active discrimination, but more often a government's plans for development — hydroelectric projects, mines, factories, mills, agri-business — are intrinsically poisonous to village life. Indians

are always "in the way" of the national destiny, whether it is Marxist or Centrist or a Right-wing dictatorship, because they do not utilize resources productively (as the technocrats see it) and they balk at attempts to convert them into a mere labor force.

The Indians have been losing this battle for four centuries. Everywhere their languages and traditional cultures have suffered erosion and compromise. In the most remote interior of the Amazon basin an explorer will confront aborigines who have learned to trade labor for radios and sunglasses, or who are rapidly depleting game supplies with shotguns and Evinrudes. When towns and small cities spring up along a new road or pipeline, the Indians come to take over the hardest and worst-paid jobs; finally, in two or three generations, a few intermarry and "advance" to full participation in national life. This participation not only obliges them to pay taxes, fight wars, and obey new laws; it often entails becoming a "leader" who can negotiate the concession of whatever tribal land or resources the state may require.

The Miskito are far along in this path. Indian leaders inside the Sandinista government and the chiefs of the rebel warriors are all university educated, literate in two or three languages, and perfectly familiar with jet travel, Telex, and parliamentary procedure. For more than two centuries the English and Americans traded along the coast and hired the Miskito to capture slaves, fight the Spaniards, work in mines and plantations. There are now Indian carpenters, mechanics, teachers, truck drivers, doctors, lawyers, and politicians whose diet, dress, and work routine do not differ notably from those of the *mestizos* around them. These *mestizos* are by definition themselves part Indian, and the Miskito have a strong admixture of African blood, so the notion of cultural or ethnic "integrity" is already problematic.

No one denies that the Atlantic Coast has a distinct heritage and regional flavor, or that the Miskito still speak their language and are proud of their race and

International law allows a sovereign nation to evict its citizens from war zones.

their unique history. Geographical isolation, the influence of English-speaking traders and the Moravian Church, and a tradition of communal lands have all worked to set them apart from the rest of the country. Some of these factors also affect the Creoles and the campesinos who have migrated from the Pacific side, so the problem is not simply a conflict over Indian rights or even self-determination. It is well to keep in mind that the entire Indian and Creole community amounts to only a bit more than a third of the 270,000 people living on the Atlantic Coast, and this population in turn amounts to less than 10 percent of the total for Nicaragua.

Beneath the ethnic and cultural patchwork of the region is a common economic dependency, a common need for tools, fuel, stock, seeds, parts, roads, docks, wells, schools, hospitals, and markets. The people of the coast are not, by any stretch of fancy, simple aborigines surviving with handwoven nets and digging sticks (although their provinces are the most economically depressed in the country). Familiarity with the principles of internal combustion and finance capital skills are quite as necessary to the Miskito as a knowledge of where the fish are when the tide turns. In this sense, the Indians and the Creoles are already assimilated into the national life: they want work at decent pay, goods and services to buy with their earnings, as well as freedom to fish and hunt in the forest.

Many of the Miskito remarked to me that before the founding of MISURASATA, no one spoke or even thought of an Indian "nation," a region with special independent status. Some of the Miskito, in fact, fought with the Sandinistas against the Somoza regime and had high hopes of belonging to a new and better Nicaragua. In 1980 Fagoth was sent to the State Council as a delegate to represent the interests of the Indian community, and the early speeches of both Fagoth and Rivera (with liberal quotes from Sandino) only argue for the inclusion of their constituency as full partners in the revolutionary process.[6] But as hostility, suspicion, and disillusion grew between MISURASATA and the new government, the notions of autonomy, self-determination, and even separatism quite naturally took root. The Frente found itself in the position of Doctor Frankenstein, unable to control its own experimental creation. As one old Miskito man put it: "They took away the blindfold from our eyes, but then they would not let us have what was before us."

Ever since the "warriors" began raiding deep within Nicaraguan territory, the dream of liberation has gathered momentum. Individuals and agencies who have long struggled for Indian rights glimpsed an unexpected opportunity. Usually those defending the interests of indigenous peoples hope at best to establish preserves or reservations in which Indians will have a *measure* of independence and fair recompense for the exploitation of their resources, or at the very least where Indians will be protected until they can deal with the onslaught of national development.

But here was a group of some 20,000 tough, proud people recently organized for political ends and roused to militant action, inhabiting a territory remote from the inexperienced, impoverished, and overworked new government that claimed jurisdiction over them. Enter an interested third party willing to distribute sophisticated weapons, operate supply bases, and provide intelligence. All at once — would it not be unique in modern history? — it was possible to hope for a glorious restitution: an indi-

genous people carving their ancient homeland out of a sovereign state, or at least establishing complete, autonomous control over a region nominally allied to a larger political unit.

For many people this dream is immensely compelling, and for a very good reason. It would belabor the obvious to review the wearisome chronicle of abuses to Indians of the Americas: it is enough to say that alien invaders, by force and deception, robbed them of the two richest continents on the planet, outlawed or discredited their languages and sacred ceremonies, and in many cases simply exterminated them. How exhilarating then to imagine the recovery — through heroic sacrifice — of even a scrap of this territory, and a little of the dignity so long lost! It is not surprising that the Miskito have earned a reputation for ferocity and endurance in battle, nor that Indians in other countries have encouraged and supported their struggle.

At the beginning of this report I said that I had arranged issues in an order of importance. The lurid atrocities allegedly committed by the Frente, the coercive relocation and surveillance of communities, and the failure to supply enough food, shelter, and health care to these communities are all matters of a lesser magnitude than the question of the political status of the Indian population.

Rape and murder are surely crimes against individuals, by individuals; they can be curtailed by purging an army of its sadists and psychopaths, and the Frente has — rare among nations — prosecuted malefactors in uniform. The widespread resentment and grief brought about by the destruction of villages and towns along the Rio Coco and by the splitting up of families — the members scattered now in refugee camps in Honduras or in Nicaragua, sometimes bearing arms against one another — have left a deeper scar. The Frente has promised to allow the Miskito to return to their villages "when the military situation allows," and to reimburse them for some of their losses, but the government has not the wherewithal to fulfill

The Laundromat at Camla, a populous Miskito village on the swampy plains of Zelaya Norte.

The new concern for the rights of aborigines seems to be aroused only when the Indians are killing communists.

these promises. Similarly the Frente has been unable to build a society productive enough to care for all its poor, sick, and homeless; it has trumpeted "Sandinismo" and blamed hardship on Yankee imperialism, but rhetoric cannot long serve as a substitute for improvement of the citizens' lot.

These problems — formidable enough — can still yield to intelligence, hard work, and luck (preferably in the form of foreign exchange credits), and the government is working frantically to achieve solutions. The Indian liberation movement is not so easily dismissed: it poses a direct and dire threat to national sovereignty. The Sandinista position on this threat was, and is, unequivocal. In Comandante Ramirez's words: "Territorial unity is an absolute principle, subject to no discussion of any kind."[7] This intransigence is typical of all nations faced with a movement toward regional, cultural, or ethnic autonomy. Separatist factions everywhere — Basque, Quebequois, Irish, Puerto Rican, Sikh, Kurdish, Bantu, Mujahedin, Quiche Mayan, Shi'ite — are perceived as deadly to the nations that contain them. These minorities suffer violent repression, and resort to acts of terrorism or seek alliance with other liberation movements. Ultimately their fight for self-determination is likely to melt into plain civil war, encouraged by foreign nations with their own axes to grind.

This dream of self-determination, so energizing to indigenous people who have been downtrodden and humiliated for centuries, is the chief nightmare haunting the "developing" country that yearns to become an industrial, technocratic state. Whenever a minority or faction — racial, religious, or political — achieves a certain centrifugal force, a government is likely to react with every instrument of repression at its command. For one thing, the principle is infectious. If Spain yields to the Basques, the Catalonians will be encouraged to press for concessions. If India grants the Sikhs special status, then Jains, Buddhists, Punjabis, Dravidians, and several hundred other cultural, linguistic, or religious groups may clamor for the same rights.

A few thousand armed dissidents can bring down the government of a small, poor country without self-reliant industries and a sophisticated apparatus of communication and control. The dissidents may demand only "their" land, but a barely surviving nation cannot afford to give up any of its resources. The Sandinistas inherited a bankrupt country literally in ruins (from the earthquake and Somoza's bombing), and the timber, seafood, gold, and soil of the Atlantic Coast constitute a significant share of Nicaragua's potential wealth. To cede control of such resources could be seen as nothing short of suicide.

A suicide economic, but also moral. The Frente took power in the name of the "people," a social contract which obligates it to organize and operate the systems of production and distribution for the good of the whole. To give up control of Zelaya to the Miskito would be

to betray not only the Atlantic campesino population, but the rest of the country as well, and beyond that the ideals of the revolution in which — for good or ill — 50,000 people lost their lives. From their point of view, the Sandinistas went as far as they possibly could in granting the Indians their own organization, a bilingual literacy program, special representatives in the State Council, and communal ownership of their village lands.

The gravity of the Frente's plight and the absurdity of the demands it confronts may be grasped by an imaginary example. Suppose we shrink the United States to the approximate size, economic strength, and population (2.6 million) of Mississippi, our poorest state. This reduced new nation would still be many, *many* times richer and more powerful than Nicaragua. For example, Mississippi would produce seventeen times as much electric power, own twenty-five times as many motor vehicles, and generate more than ten times as much per capita income as Nicaragua can. It would collect, *in taxes alone*, nearly three times the entire GNP of that Central American country.[8]

Suppose in addition we give our shrunken nation a powerful and hostile northern neighbor — Canada transformed into Russia, say — which is encouraging a small ethnic minority in its demand for control of almost half the nation's territory — everything north of Jackson. We cannot use the black community, which is ten times more numerous, proportionately, than the Miskito of Nicaragua; so — for the sake of analogy only — let us transport the Sioux to this region. Now the Soviets recruit and arm some disaffected Lakota, famous fighters, to infiltrate the area, mining roads, cutting phone and power lines, ambushing trains and trucks.

Rich and powerful as Mississippi is by Central American standards, the burden of fielding an army to resist these attacks and prepare for an expected Soviet invasion (!) would severely strain its capacities. Our little country would also face the not inconsiderable additional responsibilities of managing its own currency and postal service, building its own highways, training a diplomatic corps, funding a system of social security and welfare, and issuing passports.

The Popular Army of the Sandinista Front celebrates itself and makes a political point: if your stick is small, tread loud.

Third world countries like Nicaragua . . . serve perfectly: their devastation has no serious economic consequences, for either [super] player.

The Soviets, while massing troops and supplies along the Mississippi River in what it calls "exercises," pose four conditions for resolution of the conflict, conditions which they insist are perfectly reasonable:

1. Mississippi must reduce its tiny army still further and cease its attempt to secure a handful of obsolete fighters from China.
2. Mississippi must also cease to act as a conduit for arms being smuggled in to guerillas in Missouri, who are fighting to topple a Russian-backed government notorious for its record of human rights violations.
3. Our country's political system must be made "pluralistic"; that is, all leftist parties, including terrorist groups, must be legalized, given free access to the media, and consulted in all election procedures.
4. The Sioux right to negotiate for self-determination must be recognized.

Finally we will assume that Mississippi has made some effort to meet the first two conditions, evicting the Missouri rebels from their headquarters in Jackson and sending some Chinese advisers home. The Soviets respond with the contemptuous remark: "It's awfully hard to believe these guys when they take a few corrective steps in the face of what they believe is an imminent invasion."[9] Realizing that this Catch-22 might apply to every concession wrung from them, the Mississippians begin to suspect that conditions three and four have been designed not out of concern for the rights of the Sioux but to encourage unrest, fragmentation, and eventual civil war, so that the Soviets can unleash their vastly superior forces, occupy the country, and install a puppet regime, as in Afghanistan. They call the Soviets hypocrites who harshly repress their own ethnic minorities while pretending great compassion for the Sioux.

This somewhat cumbersome analogy may allow us to understand why the Sandinistas perceive us as fearsome, irrational bullies, and why they reacted with such haste and harshness to the Miskito's awakening. As they see it, the survival of their nation is at stake. We might remember how the United States, in a time when it was not yet a great power, waged a brutal campaign against indigenous peoples. When the Department of War feared that the Ghost Dance religion might spread and unify diverse tribes in a separatist movement, it sent the bluecoats to round up the Sioux. The troops massacred 220 of Big Foot's people, most of them women and children who were shot trying to flee in the snow. Eighty years later, at the same site, the American Indian Movement occupied Wounded Knee

and demanded recognition of the "sovereign" nation of the Sioux; and once more, against a pitiful band armed with shotguns and deer rifles, the United States sent hundreds of soldiers, FBI sharpshooters, and Federal Marshals armed with helicopters, personnel carriers, and machine guns.

The United States is of course no more willing than the Sandinistas are to grant Indians their ancestral land and right of self-determination. Whatever their differences over the Miskito question, American Indian organizations have rightly viewed the Reagan Administration's policies in Central America as laughable hypocrisy. The new concern for the rights of aborigines seems to be aroused only when the Indians are killing communists, and everyone knows that concern will evaporate whenever such rights are invoked by the Navajo, Iroquois, or Flathead.

In a past century the government of the United States held a much more honest and consistent position. During the California Gold Rush miners in a hurry took a steamer to the isthmus, crossing Nicaragua by river launch and pack mules to the Pacific. This strategic and lucrative transport business seemed wasted on a poor and backward little country, so an American "Filibuster," William Walker, gathered a mercenary army, invaded Nicaragua, and made himself President. His greed, however, brought him into conflict with Cornelius Vanderbilt, who had owned the shipping franchise. Vanderbilt hired the Costa Rican army in alliance with Honduras to oust Walker, and when the Filibuster tried to reconquer "his" country a year later, the Hondurans promptly shot him.

But for a time, during the decade of the 1850's, the Miskito were well known in the chambers of our State Department. England and the U.S. were fighting for control of the region, and there was rumor of war. Secretary of State James Buchanan (later President) saw no particular role for the Miskitos, whom he called "a miserable, degraded and insignificant tribe of Indians,"[10] but others argued that as allies they could provide legitimacy for

Miskito child in the village of Lamlaya, near Puerto Cabezas. Ninety thousand Indians live in such villages: a little fish, a little rice, a lot of children.

The issue of "human rights" becomes ironic, even absurd, in a war. ...There is truth in the atrocity stories from both sides.

American interests. The dangerous flaw in such a strategy was pointed out, with extraordinary frankness, by Secretary of State John Clayton: "We have never acknowledged, and never can acknowledge, the existence of any claim of sovereignty in the Moskito King or any other Indian in America. To do so would be to deny the title of the United States to our own territory. Having always regarded an Indian title as a mere right of occupancy, we can never agree that such a title should be treated otherwise than as a thing to be extinguished at the will of the discoverer of the country."[11] He might have added that the titles of the "discoverer" were in turn treated as a mere right of occupancy, and in turn extinguished by the musket and cannon of rebels or new invaders.

If the Sandinista government were as secure and well-equipped as our own, they might solve their "Indian problem" the same way we handled ours. They might decree reservations on wastelands and drive the Miskitos there, shooting any recalcitrants or interlopers who tried to foment rebellion. They could, as we did, forbid the Indians to speak their language or practice their religion, and in the course of a generation or two, reduce them to various dependencies or addictions that would bind them tightly to a new culture.

The Frente has not, however, the strength or endurance to carry out such a program, and — if they closely evaluate our experience — may suspect that such ruthlessness has a very high ultimate cost. Much that is ugly in the American character — racism, obsession with property and security, arrogant self-interest — can, I believe, be traced to the haunting knowledge that our good fortune is rooted in land which we acquired by trickery, theft, and murder.

At the same time, to admit the legitimacy of indigenous claims is to risk the dismemberment of a unified, disciplined, tightly interdependent society able to police its borders and defend its economic interests everywhere. It is an unpleasant truth of our time that societies with such strong, central authority (North America, Europe, Russia, China) now prosper, in contrast to areas where ethnic, cultural, and religious factions still struggle for "liberation" (Africa, South and Central America, the Middle East). After decades of fierce rhetoric and bloodshed, the third world has earned not liberation, but perennial wretchedness and political instability.

Let me repeat that the moral validity of aboriginal claims is beyond question, and so is the emotional force of the dream they represent. I have used the word "dream" deliberately, to emphasize a contrast with what I think is the real situation of the Miskito and all other Indian groups I know anything about. As a truly independent people, in absolute control of their territory and resources, Indians would have very little chance of survival.

The Miskito, for example, would surely require investments and loans to begin a struggle for self-sufficiency. The Atlantic Coast is already the poorest district of a very poor country, but it now receives at least some technical assistance from the government. Without engineers and tools to put together facilities of produc-

tion, storage, and transport, without enough doctors to insure public health, and without an administrative, military, and judicial apparatus in place, the Miskito would be driven to seek assistance.

In this world, such assistance always has its price. The United States only supplies aid in exchange for ideological commitment, backed up by guaranteed markets and leases on air and naval bases. When Somoza was our friend, for example, we launched the Bay of Pigs invasion from Puerto Cabezas, just as we now rely on Honduras as the staging area for the assault on Nicaragua.

The Bay of Pigs forced Cuba into an apparently irrevocable dependence on the Soviet Union, both for protection and for economic support, and our current policies toward Nicaragua exert similar pressure on the Sandinista government. Any impulse toward independence, liberation, or self-determination, and any act to repress or subvert that impulse, anywhere in the world, will immediately become part of the global conflict of the superpowers, who stand ready to play both sides of the game. In El Salvador and Grenada the U.S. upholds the "legitimate" government; in Nicaragua they support an insurrection. The Soviets push the Polish authorities to repress dissenters, while they encourage the Farabundo Marti guerillas.

Plus ca change, plus c'est la meme chose.

The dream of independence, of a homeland and sovereignty, and its nightmare opposite, the fear of dismemberment, are nothing to these superpowers but strategic opportunities to damage or discredit an opponent. They are in the position — enviable, I suppose, from a certain point of view — of having at their disposal legions of hungry, desperate, foreign soldiers — mercenaries in fact if not in spirit — willing to fight and die in distant lands for their patrons' interests. At nominal expense — a few carloads of obsolete weapons, ammunition, and rations — the great powers can spar at the perimeter of their zones of influence. There is no direct risk to their own populace or industry, and these little scrimmages of proxies and puppets may even help to delay the danger of all-out nuclear war, by keeping the adversaries alert, balanced, in touch — like wrestlers practicing their choreography for television.

Of course, as always, the killing takes place under the banners of freedom, justice, equality, compassion, and so forth; and the insurgents and beleaguered governments argue adamantly that they are not being used, that they have their own inviolable purposes. But they are being used, *must* be used; it is the price of their survival. Nowadays, only guns and the willingness to use them guarantee political influence; but the surreal, apocalyptic nature of the superpowers' armaments requires a complex system of surrogates, another "theater" in which they can test their strength without ultimate risk. Third world countries like Nicaragua and Vietnam and Korea serve perfectly: their devastation has no serious economic consequences for either player; they have not the strength to withstand their own internal pressures and are compelled to seek alliances; and they are just large enough to contain a respectable "small" war without endangering the overall strategic commitments of the great protagonists.

The tragedy of this business, for me, is that the Miskito feel compelled to barter the sincerity, ardor, and righteousness of their cause for guns; while the Sandinistas similarly must compromise their dearly bought revolutionary ideals to defend themselves against lethal assault. Both are blinded to their common interest and common enemy: for the third world of underdeveloped nations and the fourth one of indigenous peoples are both oppressed by the economic and political competition of industrial giants; and as long as both are willing to exhaust themselves in fratricidal war, encouraged by those giants, neither can achieve those glorious goals of freedom, self-reliance, peace, and prosperity for which they say they are fighting. ■

NOTES

1 See "Nicaragua's Other War," **CQ** No. 42 (Summer 1984), pp. 41–47; or "The Unreported War in Nicaragua," *Policy Review* No. 29 (Summer 1984), pp. 32–40, for Nietschmann's public comments; for the most vigorous refutation, see Roxanne Dunbar Ortiz, *Indians of the Americas: Human Rights And Self-Determination*, London: Zed Books, 1984; or issues of *Indigenous World/El Mundo Indigena* since 1982. American Indian publications divide into *Akwasasne Notes* and *Committee on Native American Struggles Newsletter* (see Vol. 7, No. 2 [Summer 1984]) as critics of the Sandinistas, and the American Indian Movement's *Treaty Council News* and *Navajo Times* as supporters (with qualifications). A sharp exchange occurs in recent issues of the (Berkeley, CA) *East Bay Express*. See "The Nietschmann File" by Paul Rauber, in the issue of Friday, August 31, 1984, and the response in issues for September 7 and 14.

2 See *The Report on the Situation of Human Rights of a Segment of the Nicaraguan Population of Miskito Origin*, from the Inter-American Commission on Human Rights of the Organization of American States (1984), p. 98; and "Human Rights in Nicaragua," *An Americas Watch Report* (April, 1984), p. 17.

3 *An Americas Watch Report*, , p. 7.

4 *Committee on Native American Struggles Newsletter*, p. 34.

5 *OAS Report*, p. 114ff.

6 See "National Revolution and Indigenous Identity," *IWGA Document 47* (Copenhagen, 1983), pp. 48, 73.

7 *Ibid.*, p. 234.

8 Source: *The World Almanac*, Newspaper Enterprise Association (New York, 1984), pp. 525, 618. I assume taxes assessed proportionate to Federal Tax Tables for 1983 in addition to current Mississippi state taxes.

9 A remark by "one U.S. official" after the Sandinistas dismissed Cuban advisers and closed offices of rebel groups from Guatemala and El Salvador. See "The Sandinistas Give Ground," *Newsweek*, December 5, 1983, p. 79.

10 *The Miskito Question and the Revolution in Nicaragua*, p. 5. Judy Tazewell, editor. Hampton, Virginia: Compita Publishing, 1984.

11 *Ibid.*

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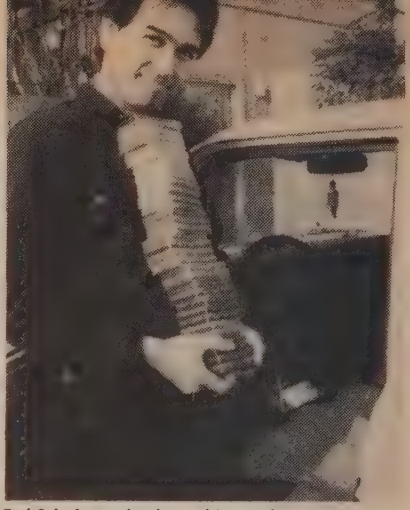

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LET THE GOOD TIMES LAST

by Anne Herbert

illustrated by Kathleen O'Neill

FEELS GOOD. Start with when it feels good. Then stay there longer. It works.

Sometimes when I think about the suffering in the world, I think that the best thing I can do is join right in. Feel lousy, get with the program. I can't quite kid myself that it helps anyone, but sometimes it feels like it relieves the pressure on me. I don't have to deal with feeling good on a planet where children and rain forests are killed for no reason. Being miserable keeps me preoccupied with myself, so I don't have to think about children and trees and poison water so much.

Feeling good works. I know that too. I know that when I feel great, when whatever work I'm doing comes easily and naturally, when I feel like I'm on a roll and everything I try to do happens smoothly, at those times I do great work, work that might be of help to other people. When I'm miserable, I mostly produce glum, trite thoughts that I don't have the energy to write down.

Feeling good works. Producing good work and feeling good are connected. Here's a theory: everyone experiences times in working when work is a joy, when they have intuitive flashes they haven't had before, when their energy just seems to keep on flowing, and they produce more and better work than they have before. The next part of the theory is that once you recognize and value those times, you can learn to be there more, produce better work, feel great and do great at the same time.

That's the theory. The question is, can environmentalists, peace workers, aspiring social-change agents of all kinds seek out the kind of work high that makes work fun, self-rewarding and nourishing? Do we even want to feel good as we do good work? Do other do-gooders, like myself, have a secret commitment to feeling lousy in a lousy world?

The theory I've just outlined about terrific feelings and terrific work going together comes from *The C Zone: Peak Performance Under Pressure,* a book by Robert Kriegel and Marilyn Harris Kriegel, psychologists who are friends of mine. The question about how this theory applies to doing Earth healing work is mine, and occurred to me as soon as I read the book.

My reaction on reading *The C Zone* in manuscript was "This is true. This is important. Why have you slanted all the examples

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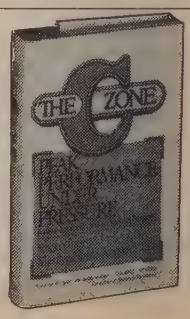
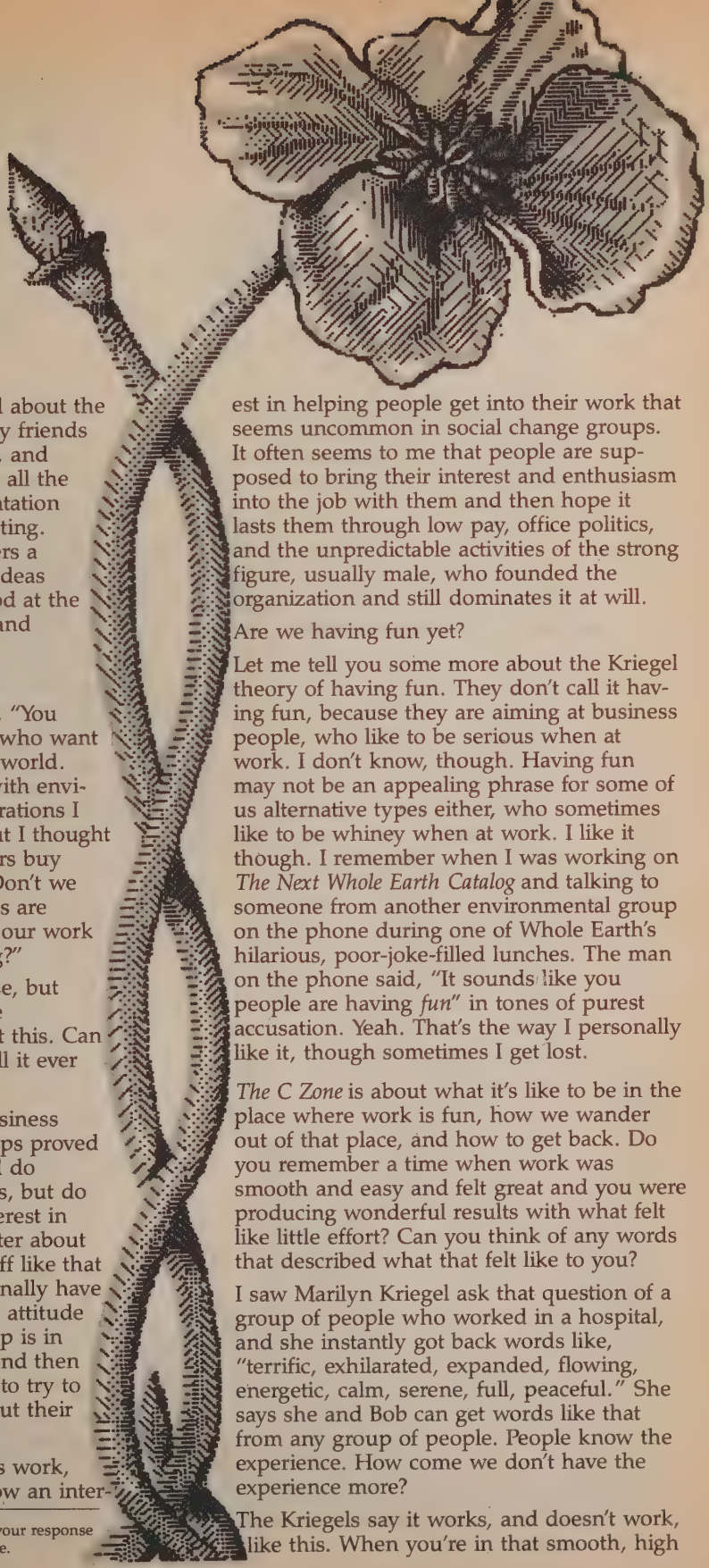
"I was born in 1950. According to the Bulletin of the Atomic Scientists, *it's been about six minutes to midnight my whole life. I'm 34 now and I don't buy it." That's Anne Herbert talking about not letting panic overtake environmental do-gooding. Several years ago Anne Herbert was at the other end of an intro like this as guest editor of* CQ's *"Neighborhoods" issue (Winter '80). Lately she has been summoning a book named* Random Kindness and Senseless Acts of Beauty *out of the storechest of her writing. It's now in production, soon to be printed. A different book, the one she reviews at length here, is pictured and accessed at right.* —*Kevin Kelly*

The C Zone
(Peak Performance Under Pressure)
by Robert Kriegel, Ph.D. and Marilyn Harris Kriegel, Ph.D.
1984; 168 pp.
$12.95
postpaid from:
Doubleday and Company
501 Franklin Avenue
Garden City, NY 11530
or Whole Earth Access



"We live in a panic-driven culture, and if we are panicked, we aren't changing the process; we are the process."



toward business?" I was concerned about the business slant because I wanted my friends to read the book and get the ideas, and I was afraid they wouldn't get past all the stories about getting a sales presentation ready or going to a marketing meeting. True, the business community offers a clear and well-defined market for ideas about how to succeed and feel good at the same time, but environmentalists and peace people want to succeed too.

Don't we?

I'm not sure. I said to the Kriegels, "You could slant these ideas for people who want to change the hurting parts of the world. You should be doing workshops with environmental groups, not large corporations I personally find boring at best." But I thought to myself, "Yeah, but do do-gooders buy books about how to be effective? Don't we just go on thinking good intentions are enough until the lack of results in our work wears us down and we stop trying?"

That's not completely fair, of course, but there's something there, and I'd be interested in what you think about this. Can healing the Earth be a delight? Will it ever happen if it isn't?*

Contrasting the expectations of business people and people in change groups proved sobering. I felt the Kriegels should do workshops in social change groups, but do social change groups have any interest in workshops to help people feel better about their work? Businesses pay for stuff like that all the time. The only time I personally have known social change groups to do attitude help for workers is when the group is in deep trouble, about to fall apart, and then the group brings in a few trainers to try to help people talk to each other about their anger. What fun.

I don't know if training workshops work, even for business, but they do show an interest in helping people get into their work that seems uncommon in social change groups. It often seems to me that people are supposed to bring their interest and enthusiasm into the job with them and then hope it lasts them through low pay, office politics, and the unpredictable activities of the strong figure, usually male, who founded the organization and still dominates it at will.

Are we having fun yet?

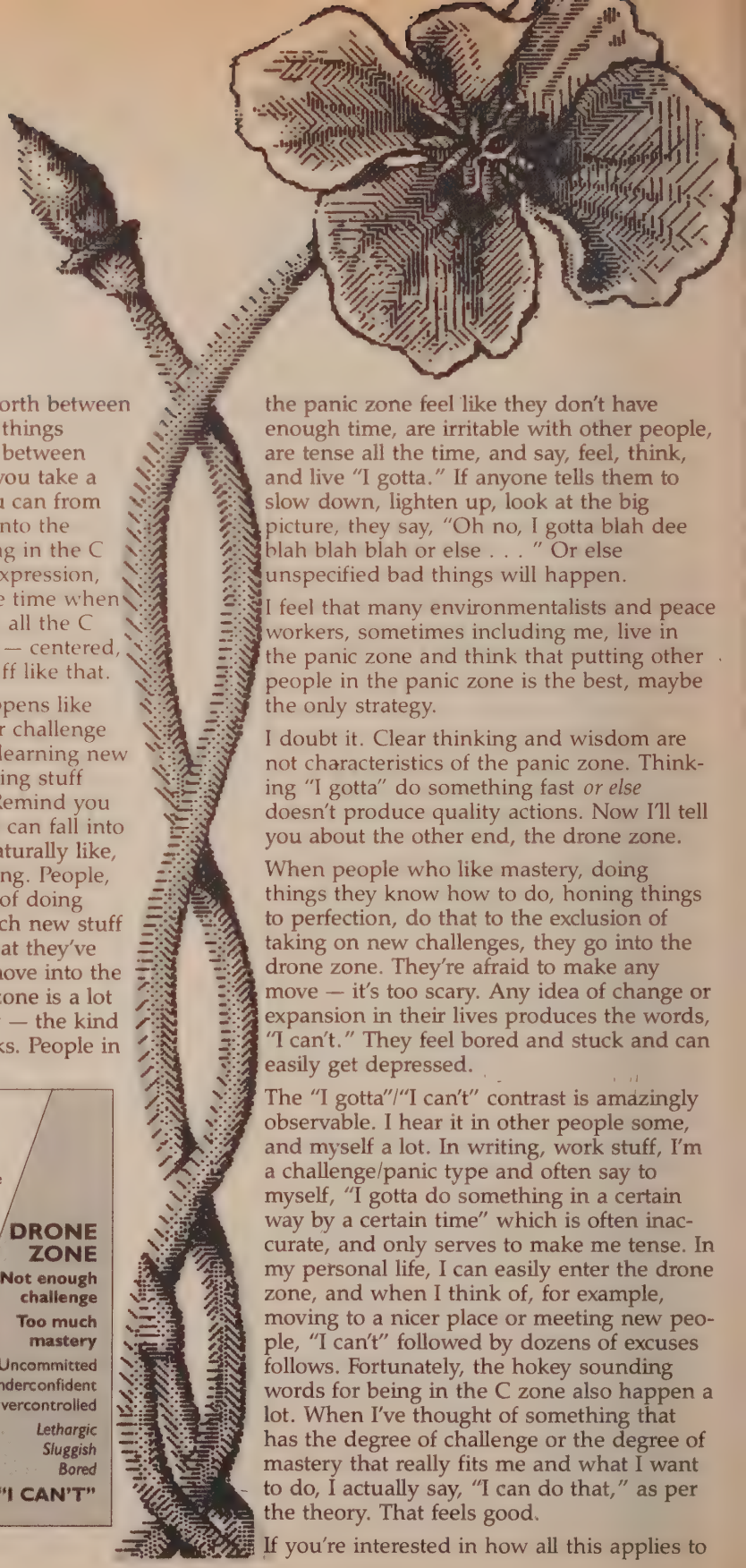
Let me tell you some more about the Kriegel theory of having fun. They don't call it having fun, because they are aiming at business people, who like to be serious when at work. I don't know, though. Having fun may not be an appealing phrase for some of us alternative types either, who sometimes like to be whiney when at work. I like it though. I remember when I was working on *The Next Whole Earth Catalog* and talking to someone from another environmental group on the phone during one of Whole Earth's hilarious, poor-joke-filled lunches. The man on the phone said, "It sounds like you people are having *fun*" in tones of purest accusation. Yeah. That's the way I personally like it, though sometimes I get lost.

The C Zone is about what it's like to be in the place where work is fun, how we wander out of that place, and how to get back. Do you remember a time when work was smooth and easy and felt great and you were producing wonderful results with what felt like little effort? Can you think of any words that described what that felt like to you?

I saw Marilyn Kriegel ask that question of a group of people who worked in a hospital, and she instantly got back words like, "terrific, exhilarated, expanded, flowing, energetic, calm, serene, full, peaceful." She says she and Bob can get words like that from any group of people. People know the experience. How come we don't have the experience more?

The Kriegels say it works, and doesn't work, like this. When you're in that smooth, high

*These are real questions — I'd be interested in your response to them or any other part of this article. Write me.



place, you're moving back and forth between learning new things, and doing things you already know how to do — between challenge and mastery. It's like you take a step on a ladder, learn what you can from being on that step, then move onto the next one. They call that operating in the C zone. That's from the athletes' expression, "Playing in the zone," about the time when you can do no wrong, and from all the C words that apply to being there — centered, committed, calm, in control, stuff like that.

The way we get uncentered happens like this. People tend to prefer either challenge or mastery — some people like learning new stuff more, some people like doing stuff they already know how to do. Remind you of you and your friends? People can fall into doing too much of what they naturally like, and not enough of the other thing. People, like me, who like the challenge of doing new things, can take on too much new stuff without enough in their lives that they've mastered. They freak out and move into the panic zone. Being in the panic zone is a lot like having a type A personality — the kind that is likely to have heart attacks. People in the panic zone feel like they don't have enough time, are irritable with other people, are tense all the time, and say, feel, think, and live "I gotta." If anyone tells them to slow down, lighten up, look at the big picture, they say, "Oh no, I gotta blah dee blah blah blah or else . . . " Or else unspecified bad things will happen.

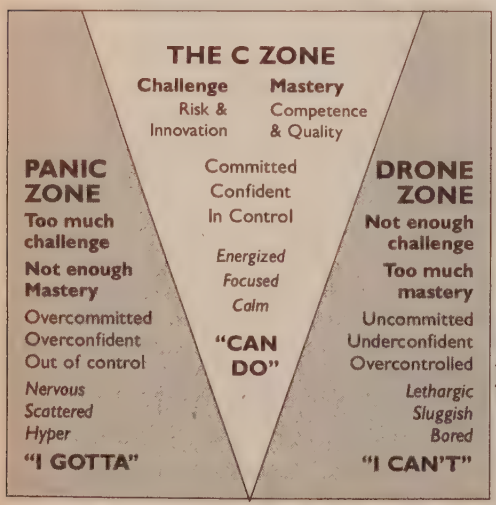
I feel that many environmentalists and peace workers, sometimes including me, live in the panic zone and think that putting other people in the panic zone is the best, maybe the only strategy.

I doubt it. Clear thinking and wisdom are not characteristics of the panic zone. Thinking "I gotta" do something fast *or else* doesn't produce quality actions. Now I'll tell you about the other end, the drone zone.

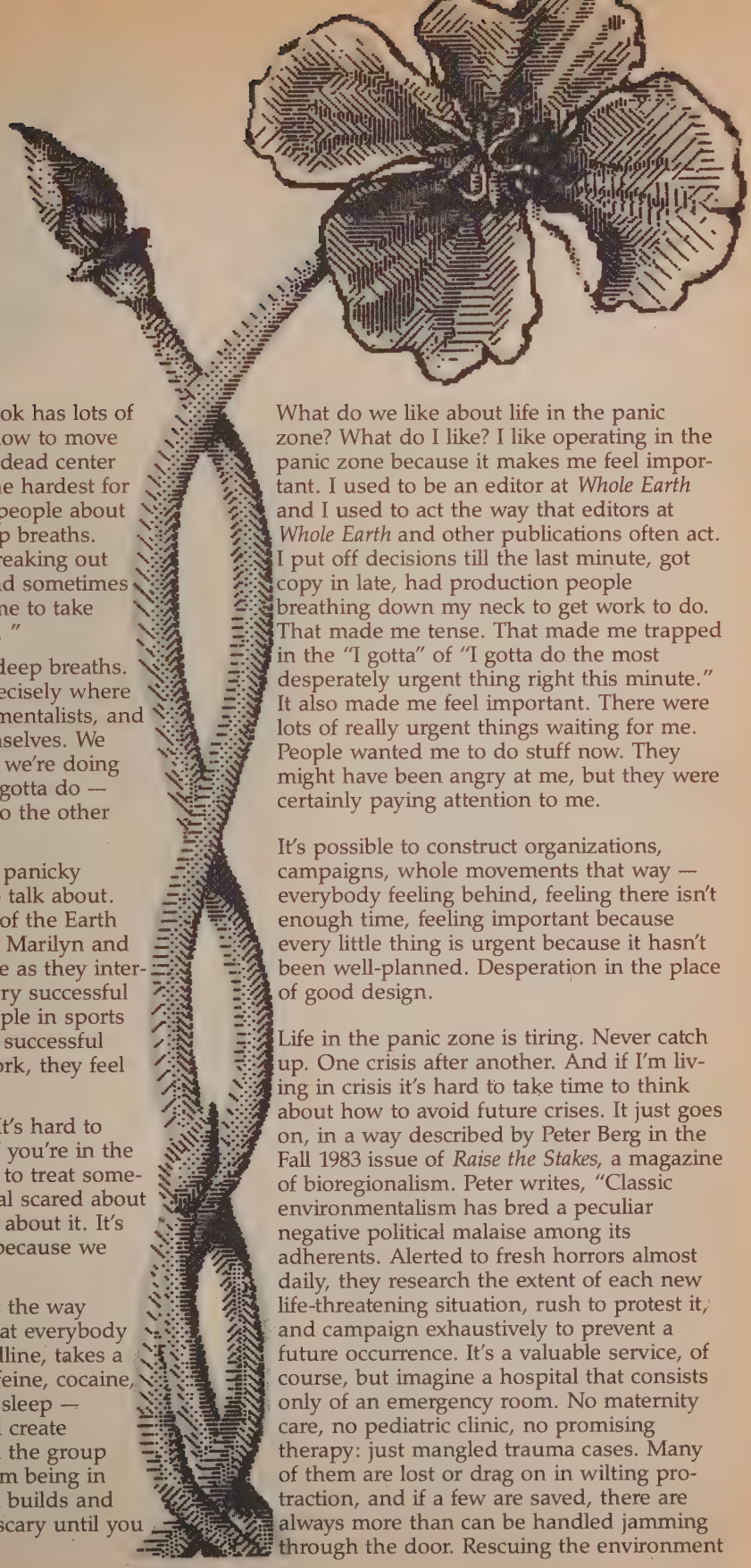
When people who like mastery, doing things they know how to do, honing things to perfection, do that to the exclusion of taking on new challenges, they go into the drone zone. They're afraid to make any move — it's too scary. Any idea of change or expansion in their lives produces the words, "I can't." They feel bored and stuck and can easily get depressed.

The "I gotta"/"I can't" contrast is amazingly observable. I hear it in other people some, and myself a lot. In writing, work stuff, I'm a challenge/panic type and often say to myself, "I gotta do something in a certain way by a certain time" which is often inaccurate, and only serves to make me tense. In my personal life, I can easily enter the drone zone, and when I think of, for example, moving to a nicer place or meeting new people, "I can't" followed by dozens of excuses follows. Fortunately, the hokey sounding words for being in the C zone also happen a lot. When I've thought of something that has the degree of challenge or the degree of mastery that really fits me and what I want to do, I actually say, "I can do that," as per the theory. That feels good.

If you're interested in how all this applies to



Based on a chart in The C Zone



your life, get the book. The book has lots of actual usable exercises about how to move out of whatever your habitual dead center is. The simplest, and one of the hardest for me, is the one for panic zone people about stopping and taking three deep breaths. Amazing. When I notice I'm freaking out sometimes I remember that and sometimes say to myself, "I don't have time to take three deep breaths. I gotta . . . "

Don't have time to take three deep breaths. That's nuts. It's also exactly precisely where a lot of peace people, environmentalists, and social change people put themselves. We can't stop to think about what we're doing because we gotta do what we gotta do — which is often react instantly to the other side's stimulus.

Does doing good have to be a panicky activity? That's what I'd like to talk about. Can being part of the healing of the Earth feel like playing a great game? Marilyn and Bob Kriegel noticed the C zone as they interviewed 400 people who are very successful at what they do — mostly people in sports and business. When the most successful people are doing their best work, they feel wonderful.

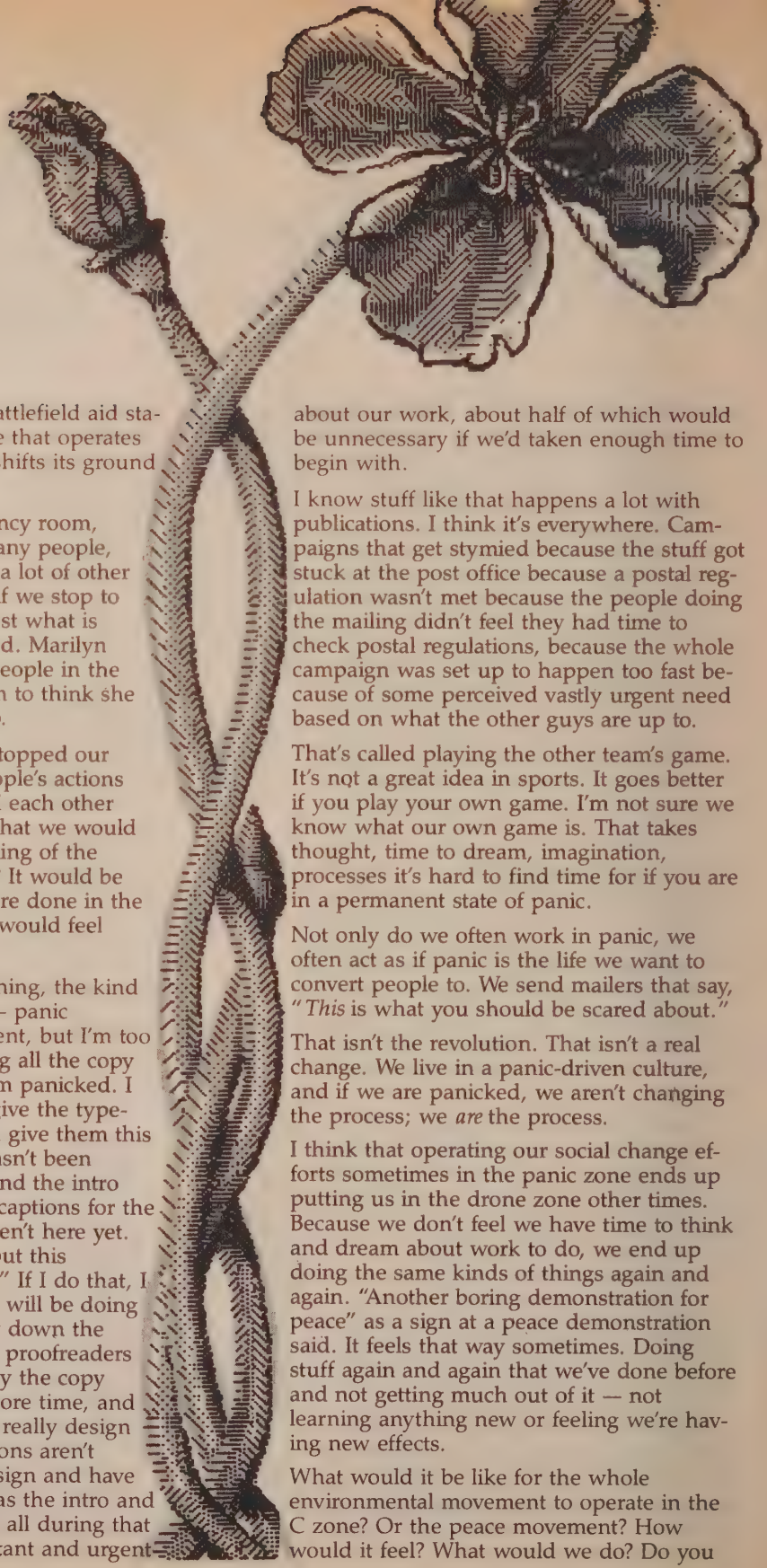
Everyone has times like that. It's hard to notice them and value them if you're in the habit of thinking that the way to treat something as important is to get real scared about it and get other people scared about it. It's easy for us to think that way because we live in a panic culture.

There's a very strong idea that the way important things happen is that everybody gets pushed up against a deadline, takes a lot of the upper of choice (caffeine, cocaine, whatever), gets tense, doesn't sleep — that's real work. We value and create panic together. It's easy to feel the group panic when you're driving from being in nature to the city. The tension builds and builds and it seems dumb or scary until you get reimmersed in it.

What do we like about life in the panic zone? What do I like? I like operating in the panic zone because it makes me feel important. I used to be an editor at *Whole Earth* and I used to act the way that editors at *Whole Earth* and other publications often act. I put off decisions till the last minute, got copy in late, had production people breathing down my neck to get work to do. That made me tense. That made me trapped in the "I gotta" of "I gotta do the most desperately urgent thing right this minute." It also made me feel important. There were lots of really urgent things waiting for me. People wanted me to do stuff now. They might have been angry at me, but they were certainly paying attention to me.

It's possible to construct organizations, campaigns, whole movements that way — everybody feeling behind, feeling there isn't enough time, feeling important because every little thing is urgent because it hasn't been well-planned. Desperation in the place of good design.

Life in the panic zone is tiring. Never catch up. One crisis after another. And if I'm living in crisis it's hard to take time to think about how to avoid future crises. It just goes on, in a way described by Peter Berg in the Fall 1983 issue of *Raise the Stakes*, a magazine of bioregionalism. Peter writes, "Classic environmentalism has bred a peculiar negative political malaise among its adherents. Alerted to fresh horrors almost daily, they research the extent of each new life-threatening situation, rush to protest it, and campaign exhaustively to prevent a future occurrence. It's a valuable service, of course, but imagine a hospital that consists only of an emergency room. No maternity care, no pediatric clinic, no promising therapy: just mangled trauma cases. Many of them are lost or drag on in wilting protraction, and if a few are saved, there are always more than can be handled jamming through the door. Rescuing the environment



has become like running a battlefield aid station against a killing machine that operates just beyond reach, and that shifts its ground after each seeming defeat."

Scary, working in an emergency room, important-feeling, and for many people, exhausting. I think there are a lot of other kinds of healing work to do if we stop to think about it. Stopping is just what is hard to do when I'm panicked. Marilyn Kriegel says when she tells people in the panic zone to stop, they seem to think she said, "Slow down." Just stop.

What would it be like if we stopped our chain of reaction to other people's actions and listened to ourselves and each other about the best thing to do, what we would each enjoy doing for the healing of the Earth and the Earth's people? It would be different. I think we'd get more done in the long run, although stopping would feel very, very strange.

To go back to panic in publishing, the kind of panic I've done the most — panic behavior is massively inefficient, but I'm too busy to notice. Say I'm getting all the copy for a magazine in late, and I'm panicked. I say to myself, "Well, I gotta give the typesetters something to do so I'll give them this manuscript even though it hasn't been completely copy-edited yet, and the intro isn't written and there aren't captions for the photos because the photos aren't here yet. I gotta do something, so I'll put this unready work in typesetting." If I do that, I and other people on the staff will be doing extra work with it all the way down the line. It will be copy-edited by proofreaders after typesetting (instead of by the copy editor before), which takes more time, and the designer won't be able to really design it because the intro and captions aren't ready. Maybe she'll fake a design and have to redo it two or three times as the intro and captions finally get done. But all during that process we can all feel important and urgent about our work, about half of which would be unnecessary if we'd taken enough time to begin with.

I know stuff like that happens a lot with publications. I think it's everywhere. Campaigns that get stymied because the stuff got stuck at the post office because a postal regulation wasn't met because the people doing the mailing didn't feel they had time to check postal regulations, because the whole campaign was set up to happen too fast because of some perceived vastly urgent need based on what the other guys are up to.

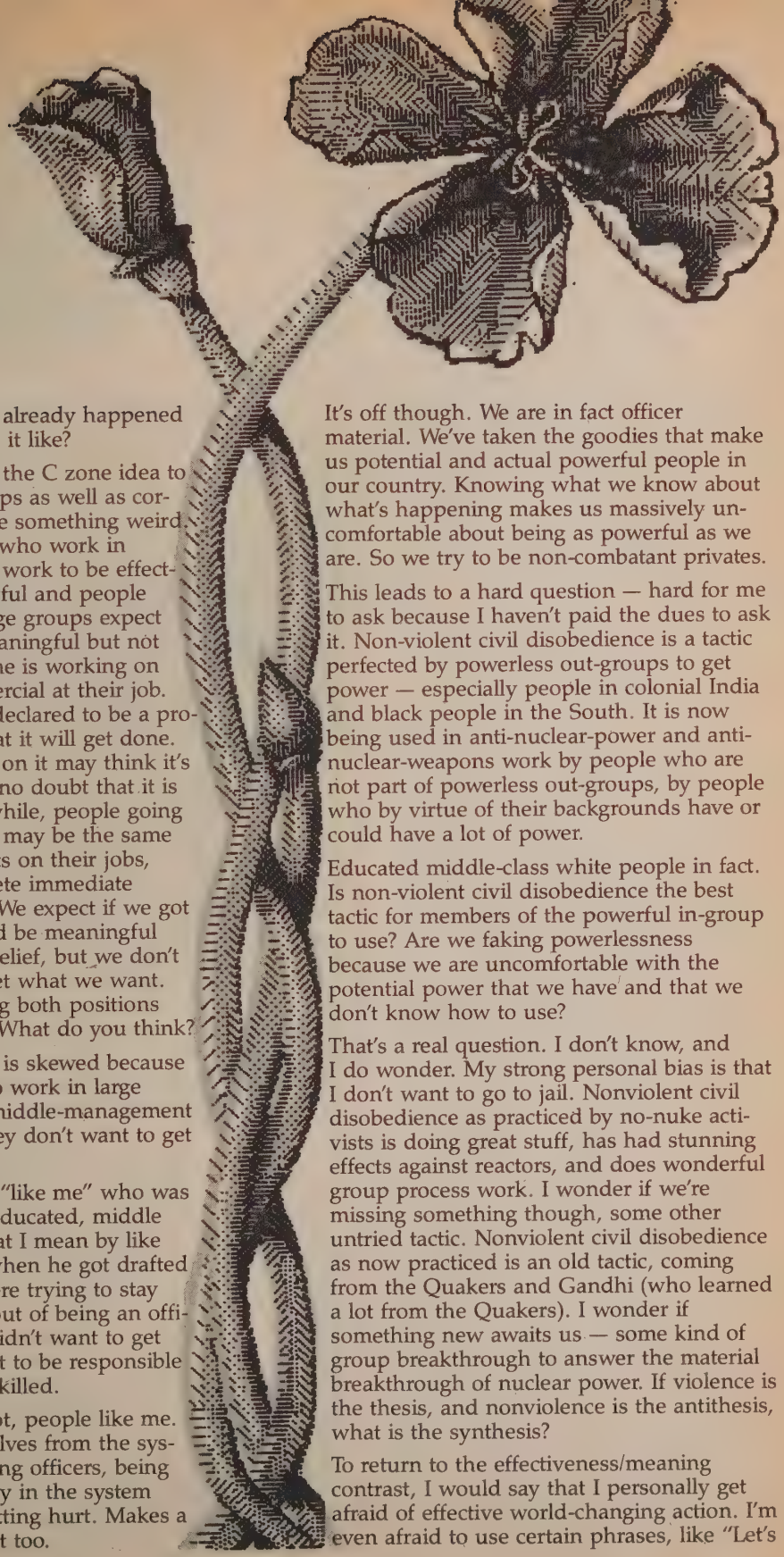
That's called playing the other team's game. It's not a great idea in sports. It goes better if you play your own game. I'm not sure we know what our own game is. That takes thought, time to dream, imagination, processes it's hard to find time for if you are in a permanent state of panic.

Not only do we often work in panic, we often act as if panic is the life we want to convert people to. We send mailers that say, "*This* is what you should be scared about."

That isn't the revolution. That isn't a real change. We live in a panic-driven culture, and if we are panicked, we aren't changing the process; we *are* the process.

I think that operating our social change efforts sometimes in the panic zone ends up putting us in the drone zone other times. Because we don't feel we have time to think and dream about work to do, we end up doing the same kinds of things again and again. "Another boring demonstration for peace" as a sign at a peace demonstration said. It feels that way sometimes. Doing stuff again and again that we've done before and not getting much out of it — not learning anything new or feeling we're having new effects.

What would it be like for the whole environmental movement to operate in the C zone? Or the peace movement? How would it feel? What would we do? Do you



have any guesses? Has it already happened in your group? What was it like?

Thinking about applying the C zone idea to working in do-good groups as well as corporations made me notice something weird. I feel like people I know who work in corporations expect their work to be effective but not very meaningful and people who work in social change groups expect their work to be very meaningful but not too effective. Say someone is working on a fairly dumb TV commercial at their job. Once the commercial is declared to be a project, everyone expects that it will get done. Half the people working on it may think it's silly at best, but there is no doubt that it is going to happen. Meanwhile, people going to a peace meeting, who may be the same people who expect results on their jobs, don't really expect concrete immediate results from their work. We expect if we got what we wanted it would be meaningful and wonderful beyond belief, but we don't really expect that we'll get what we want. I hope that I'm parodying both positions here. I'm not sure I am. What do you think?

My view of corporations is skewed because most people I know who work in large corporations are below middle-management by their own design. They don't want to get into it.

I only know one person "like me" who was in the war in Vietnam. Educated, middle class, white — that's what I mean by like me. He had a master's when he got drafted. He spent all his time there trying to stay out of combat and stay out of being an officer. He succeeded. He didn't want to get killed and he didn't want to be responsible for other people getting killed.

I feel like we do that a lot, people like me. Try to disassociate ourselves from the system enough to avoid being officers, being responsible, and also stay in the system enough to keep from getting hurt. Makes a lot of sense to me. I do it too.

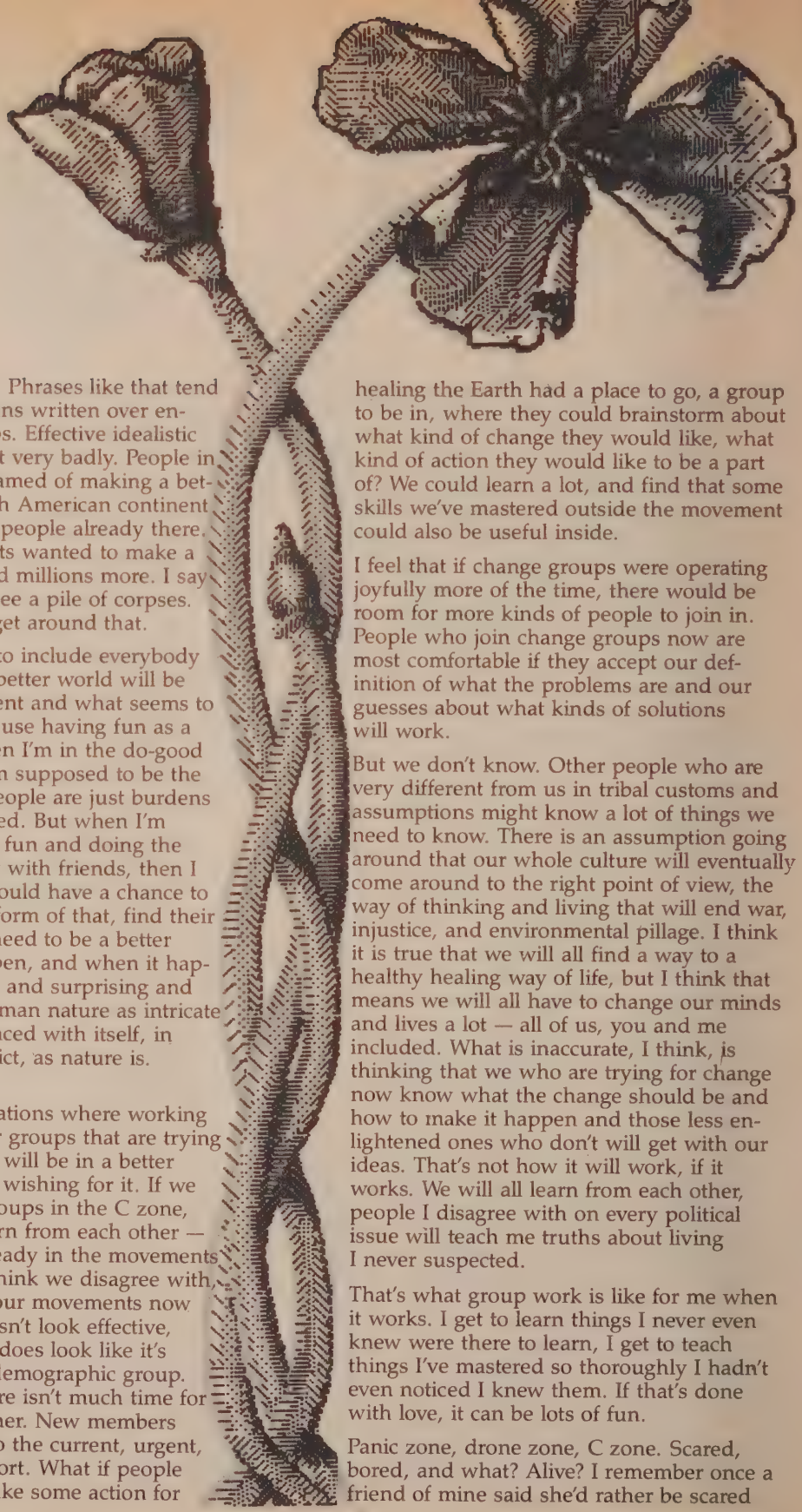
It's off though. We are in fact officer material. We've taken the goodies that make us potential and actual powerful people in our country. Knowing what we know about what's happening makes us massively uncomfortable about being as powerful as we are. So we try to be non-combatant privates.

This leads to a hard question — hard for me to ask because I haven't paid the dues to ask it. Non-violent civil disobedience is a tactic perfected by powerless out-groups to get power — especially people in colonial India and black people in the South. It is now being used in anti-nuclear-power and anti-nuclear-weapons work by people who are not part of powerless out-groups, by people who by virtue of their backgrounds have or could have a lot of power.

Educated middle-class white people in fact. Is non-violent civil disobedience the best tactic for members of the powerful in-group to use? Are we faking powerlessness because we are uncomfortable with the potential power that we have and that we don't know how to use?

That's a real question. I don't know, and I do wonder. My strong personal bias is that I don't want to go to jail. Nonviolent civil disobedience as practiced by no-nuke activists is doing great stuff, has had stunning effects against reactors, and does wonderful group process work. I wonder if we're missing something though, some other untried tactic. Nonviolent civil disobedience as now practiced is an old tactic, coming from the Quakers and Gandhi (who learned a lot from the Quakers). I wonder if something new awaits us — some kind of group breakthrough to answer the material breakthrough of nuclear power. If violence is the thesis, and nonviolence is the antithesis, what is the synthesis?

To return to the effectiveness/meaning contrast, I would say that I personally get afraid of effective world-changing action. I'm even afraid to use certain phrases, like "Let's



make a better world." Phrases like that tend to remind me of slogans written over entrances to death camps. Effective idealistic action often works out very badly. People in the United States dreamed of making a better world on the North American continent and killed millions of people already there. Nazis and Communists wanted to make a better world and killed millions more. I say "better world" and I see a pile of corpses. I don't know how to get around that.

I think it's important to include everybody in our dreams — the better world will be filled with disagreement and what seems to us poor taste. And to use having fun as a model for peace. When I'm in the do-good panic zone, I think I'm supposed to be the messiah, and other people are just burdens to be lifted or converted. But when I'm loving my life, having fun and doing the work and play I enjoy with friends, then I think other people should have a chance to do their own unique form of that, find their own C zone. It does need to be a better world for that to happen, and when it happens it will be diverse and surprising and alive. Like nature. Human nature as intricate and various and balanced with itself, in cooperation and conflict, as nature is. A better world.

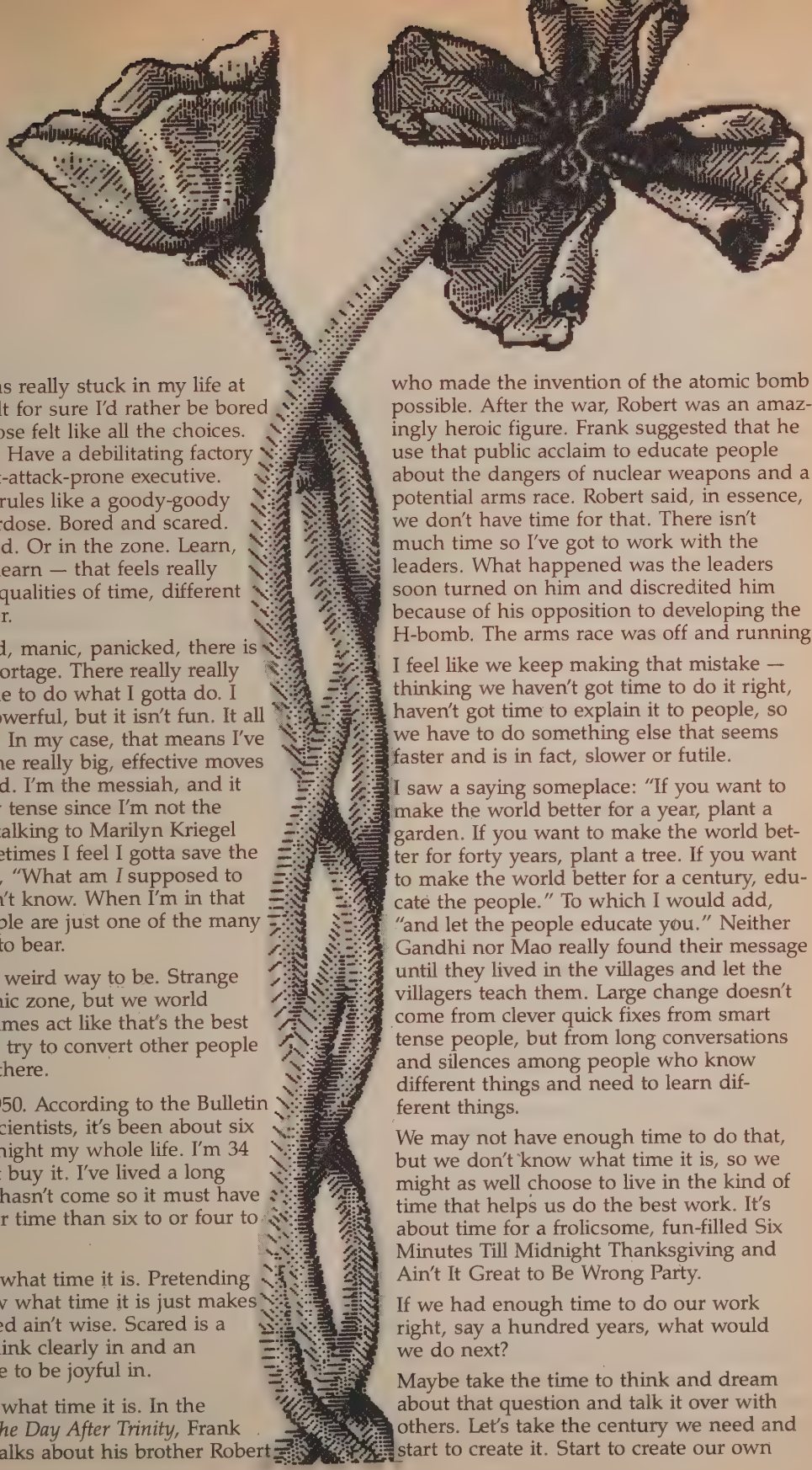
If we create more situations where working feels wonderful in our groups that are trying to improve things, we will be in a better world now, instead of wishing for it. If we were operating our groups in the C zone, we'd have room to learn from each other — from other people already in the movements and from people we think we disagree with, people who aren't in our movements now because our work doesn't look effective, doesn't look fun, and does look like it's confined to a certain demographic group. In the panic zone, there isn't much time for learning from each other. New members have to be hustled into the current, urgent, we-gotta-do-it-now effort. What if people who had decided to take some action for healing the Earth had a place to go, a group to be in, where they could brainstorm about what kind of change they would like, what kind of action they would like to be a part of? We could learn a lot, and find that some skills we've mastered outside the movement could also be useful inside.

I feel that if change groups were operating joyfully more of the time, there would be room for more kinds of people to join in. People who join change groups now are most comfortable if they accept our definition of what the problems are and our guesses about what kinds of solutions will work.

But we don't know. Other people who are very different from us in tribal customs and assumptions might know a lot of things we need to know. There is an assumption going around that our whole culture will eventually come around to the right point of view, the way of thinking and living that will end war, injustice, and environmental pillage. I think it is true that we will all find a way to a healthy healing way of life, but I think that means we will all have to change our minds and lives a lot — all of us, you and me included. What is inaccurate, I think, is thinking that we who are trying for change now know what the change should be and how to make it happen and those less enlightened ones who don't will get with our ideas. That's not how it will work, if it works. We will all learn from each other, people I disagree with on every political issue will teach me truths about living I never suspected.

That's what group work is like for me when it works. I get to learn things I never even knew were there to learn, I get to teach things I've mastered so thoroughly I hadn't even noticed I knew them. If that's done with love, it can be lots of fun.

Panic zone, drone zone, C zone. Scared, bored, and what? Alive? I remember once a friend of mine said she'd rather be scared



than bored. I was really stuck in my life at that time and felt for sure I'd rather be bored than scared. Those felt like all the choices. Bored or scared. Have a debilitating factory job or be a heart-attack-prone executive. Follow society's rules like a goody-goody or die of an overdose. Bored and scared. Scared and bored. Or in the zone. Learn, master, master, learn — that feels really good. Different qualities of time, different feelings of power.

When I'm scared, manic, panicked, there is a severe time shortage. There really really isn't enough time to do what I gotta do. I also feel very powerful, but it isn't fun. It all depends on me. In my case, that means I've got to make some really big, effective moves to save the world. I'm the messiah, and it makes me really tense since I'm not the messiah. I was talking to Marilyn Kriegel about how sometimes I feel I gotta save the world. She said, "What am *I* supposed to do then?" I didn't know. When I'm in that place other people are just one of the many burdens I have to bear.

That's all a very weird way to be. Strange times in the panic zone, but we world changers sometimes act like that's the best place to be, and try to convert other people to hanging out there.

I was born in 1950. According to the Bulletin of the Atomic Scientists, it's been about six minutes to midnight my whole life. I'm 34 now and I don't buy it. I've lived a long time; midnight hasn't come so it must have been some other time than six to or four to or eight to.

We don't know what time it is. Pretending like we do know what time it is just makes us scared. Scared ain't wise. Scared is a hard place to think clearly in and an impossible place to be joyful in.

We don't know what time it is. In the documentary *The Day After Trinity*, Frank Oppenheimer talks about his brother Robert who made the invention of the atomic bomb possible. After the war, Robert was an amazingly heroic figure. Frank suggested that he use that public acclaim to educate people about the dangers of nuclear weapons and a potential arms race. Robert said, in essence, we don't have time for that. There isn't much time so I've got to work with the leaders. What happened was the leaders soon turned on him and discredited him because of his opposition to developing the H-bomb. The arms race was off and running.

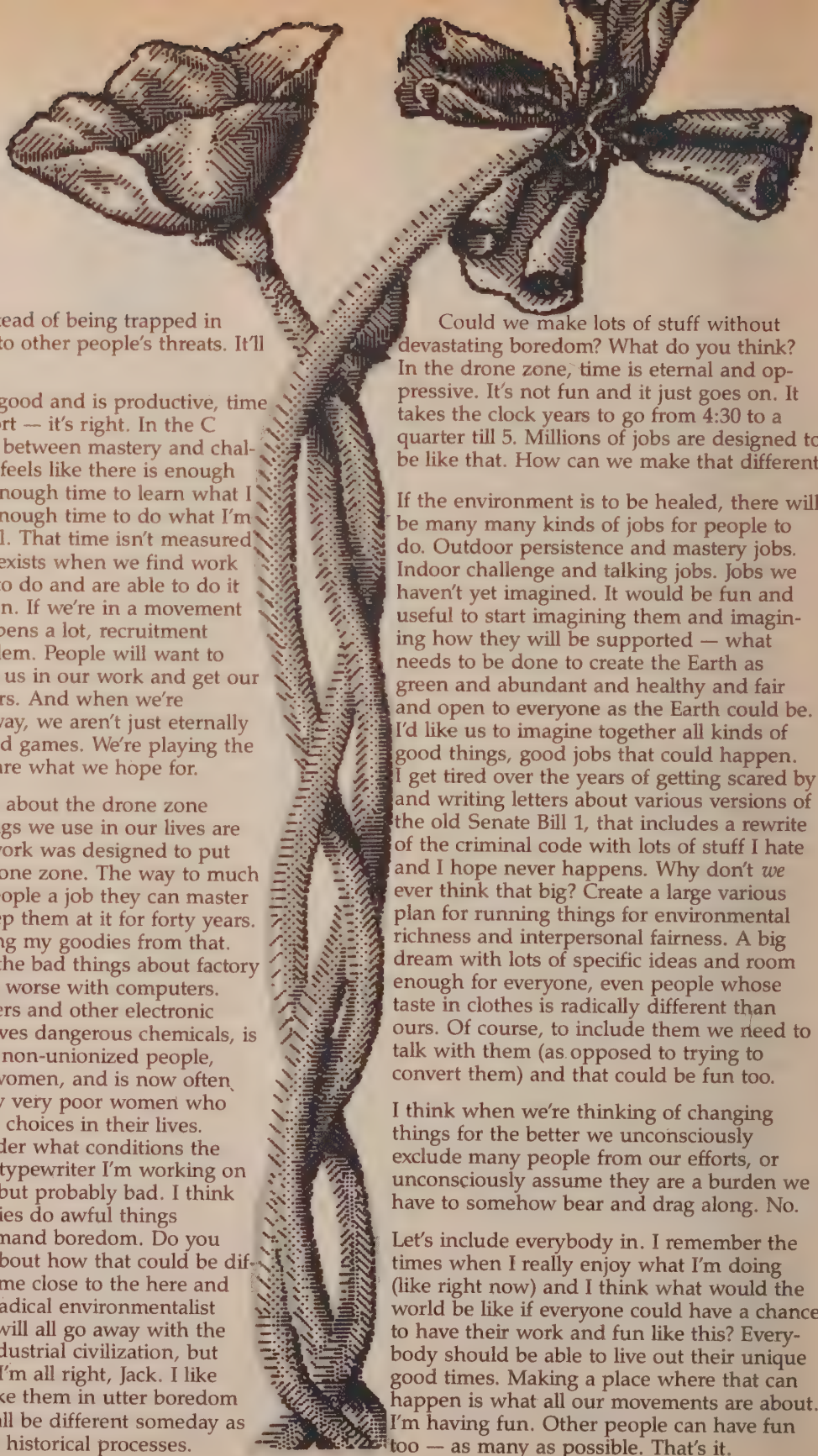
I feel like we keep making that mistake — thinking we haven't got time to do it right, haven't got time to explain it to people, so we have to do something else that seems faster and is in fact, slower or futile.

I saw a saying someplace: "If you want to make the world better for a year, plant a garden. If you want to make the world better for forty years, plant a tree. If you want to make the world better for a century, educate the people." To which I would add, "and let the people educate you." Neither Gandhi nor Mao really found their message until they lived in the villages and let the villagers teach them. Large change doesn't come from clever quick fixes from smart tense people, but from long conversations and silences among people who know different things and need to learn different things.

We may not have enough time to do that, but we don't know what time it is, so we might as well choose to live in the kind of time that helps us do the best work. It's about time for a frolicsome, fun-filled Six Minutes Till Midnight Thanksgiving and Ain't It Great to Be Wrong Party.

If we had enough time to do our work right, say a hundred years, what would we do next?

Maybe take the time to think and dream about that question and talk it over with others. Let's take the century we need and start to create it. Start to create our own



good things instead of being trapped in scared reaction to other people's threats. It'll be fun.

When life feels good and is productive, time isn't long or short — it's right. In the C zone, as I move between mastery and challenge, it always feels like there is enough time for both. Enough time to learn what I need to learn, enough time to do what I'm doing really well. That time isn't measured on a clock, but exists when we find work we really want to do and are able to do it as well as we can. If we're in a movement where that happens a lot, recruitment won't be a problem. People will want to join in, support us in our work and get our support for theirs. And when we're operating that way, we aren't just eternally criticizing the old games. We're playing the new game. We are what we hope for.

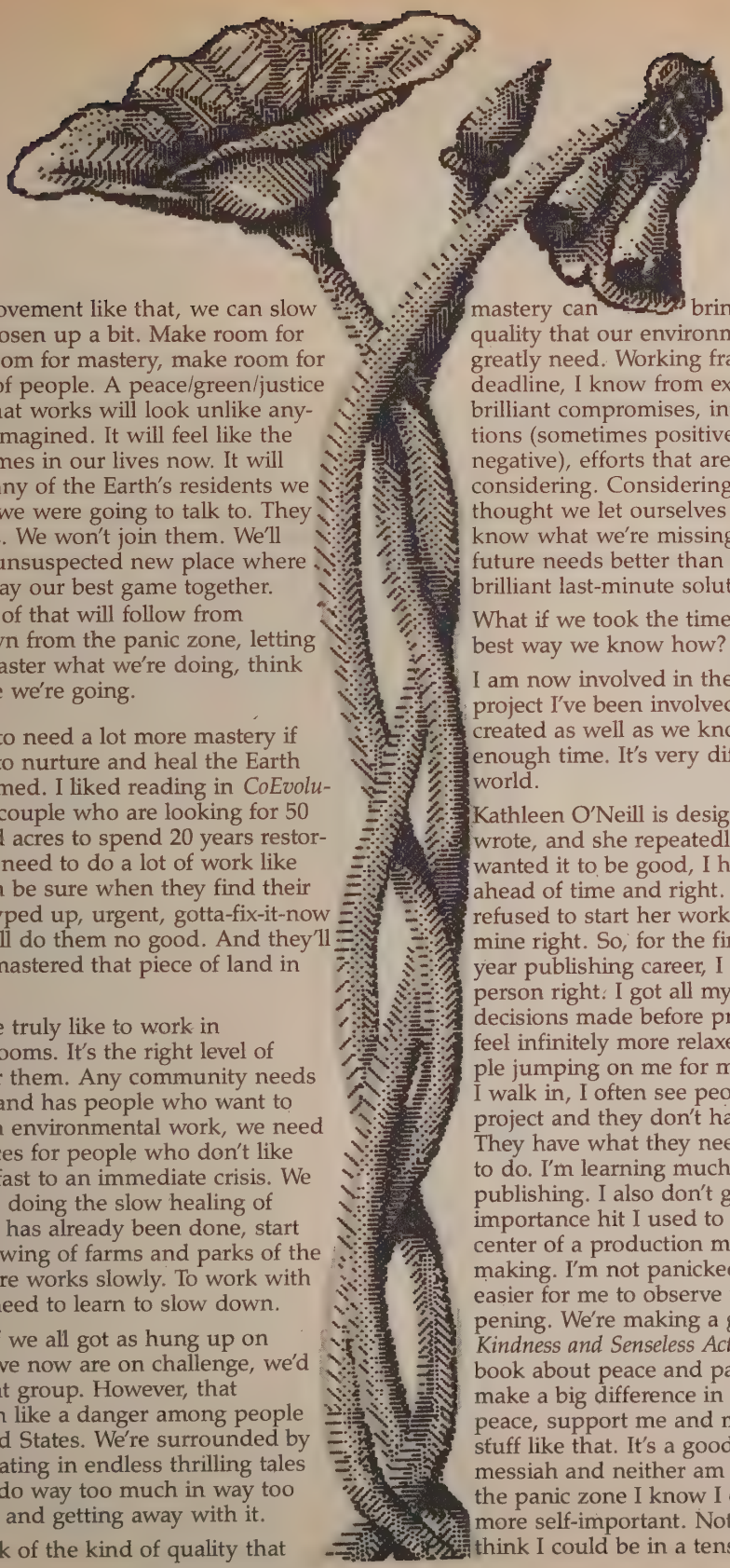
What can we do about the drone zone where most things we use in our lives are made? Factory work was designed to put people in the drone zone. The way to much mastery: give people a job they can master in a day and keep them at it for forty years. I don't like getting my goodies from that. I don't like that the bad things about factory work are getting worse with computers. Making computers and other electronic equipment involves dangerous chemicals, is usually done by non-unionized people, predominantly women, and is now often done overseas by very poor women who don't have many choices in their lives. I don't know under what conditions the clever electronic typewriter I'm working on now was made, but probably bad. I think even good factories do awful things because they demand boredom. Do you have any ideas about how that could be different in some time close to the here and now? My more radical environmentalist friends say that will all go away with the collapse of an industrial civilization, but that seems lazy. I'm all right, Jack. I like gadgets, you make them in utter boredom for me, and it'll all be different someday as part of inevitable historical processes.

Could we make lots of stuff without devastating boredom? What do you think? In the drone zone, time is eternal and oppressive. It's not fun and it just goes on. It takes the clock years to go from 4:30 to a quarter till 5. Millions of jobs are designed to be like that. How can we make that different?

If the environment is to be healed, there will be many many kinds of jobs for people to do. Outdoor persistence and mastery jobs. Indoor challenge and talking jobs. Jobs we haven't yet imagined. It would be fun and useful to start imagining them and imagining how they will be supported — what needs to be done to create the Earth as green and abundant and healthy and fair and open to everyone as the Earth could be. I'd like us to imagine together all kinds of good things, good jobs that could happen. I get tired over the years of getting scared by and writing letters about various versions of the old Senate Bill 1, that includes a rewrite of the criminal code with lots of stuff I hate and I hope never happens. Why don't *we* ever think that big? Create a large various plan for running things for environmental richness and interpersonal fairness. A big dream with lots of specific ideas and room enough for everyone, even people whose taste in clothes is radically different than ours. Of course, to include them we need to talk with them (as opposed to trying to convert them) and that could be fun too.

I think when we're thinking of changing things for the better we unconsciously exclude many people from our efforts, or unconsciously assume they are a burden we have to somehow bear and drag along. No.

Let's include everybody in. I remember the times when I really enjoy what I'm doing (like right now) and I think what would the world be like if everyone could have a chance to have their work and fun like this? Everybody should be able to live out their unique good times. Making a place where that can happen is what all our movements are about. I'm having fun. Other people can have fun too — as many as possible. That's it.



To be in a movement like that, we can slow down and loosen up a bit. Make room for fun, make room for mastery, make room for other kinds of people. A peace/green/justice movement that works will look unlike anything we've imagined. It will feel like the most alive times in our lives now. It will have in it many of the Earth's residents we didn't think we were going to talk to. They won't join us. We won't join them. We'll meet in the unsuspected new place where we can all play our best game together.

I think a lot of that will follow from slowing down from the panic zone, letting ourselves master what we're doing, think about where we're going.

We're going to need a lot more mastery if we're going to nurture and heal the Earth we have harmed. I liked reading in *CoEvolution* about a couple who are looking for 50 badly eroded acres to spend 20 years restoring. Yes. We need to do a lot of work like that. You can be sure when they find their 50 acres a hyped up, urgent, gotta-fix-it-now approach will do them no good. And they'll have really mastered that piece of land in 20 years.

Some people truly like to work in emergency rooms. It's the right level of challenge for them. Any community needs firefighters, and has people who want to fight fires. In environmental work, we need to make places for people who don't like responding fast to an immediate crisis. We need to start doing the slow healing of damage that has already been done, start the slow growing of farms and parks of the future. Nature works slowly. To work with nature, we need to learn to slow down.

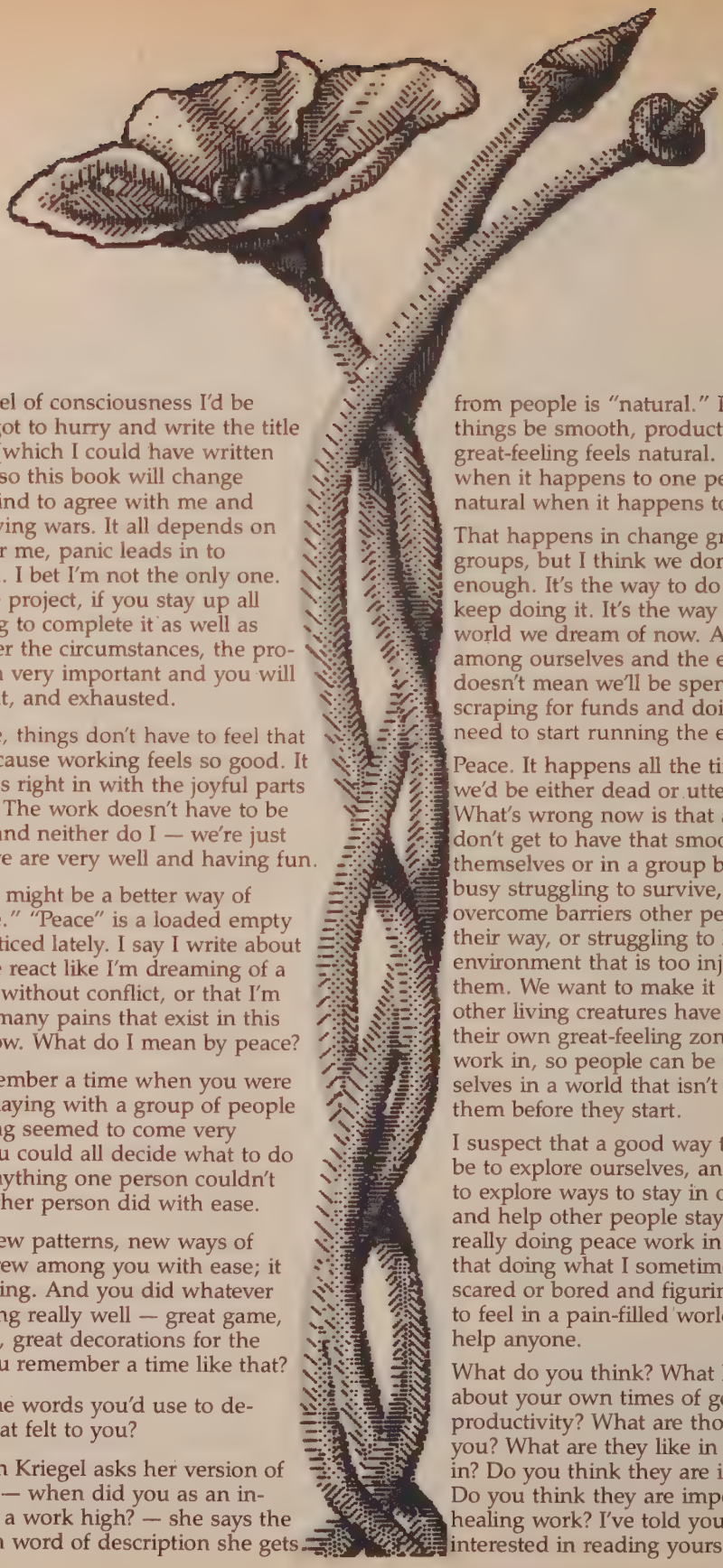
Of course, if we all got as hung up on mastery as we now are on challenge, we'd be a stagnant group. However, that doesn't seem like a danger among people in the United States. We're surrounded by and participating in endless thrilling tales of trying to do way too much in way too short a time and getting away with it.

We lose track of the kind of quality that mastery can bring — the kind of quality that our environment and our souls greatly need. Working frantically on deadline, I know from experience, creates brilliant compromises, intense group emotions (sometimes positive and sometimes negative), efforts that are amazingly good considering. Considering how little time and thought we let ourselves take. We don't even know what we're missing. Building the good future needs better than creating one brilliant last-minute solution after another.

What if we took the time to create change the best way we know how? We'd learn a lot.

I am now involved in the first publishing project I've been involved in that is being created as well as we know how, with enough time. It's very different, a different world.

Kathleen O'Neill is designing a book I wrote, and she repeatedly told me if I wanted it to be good, I had to do my work ahead of time and right. She also essentially refused to start her work until I had done mine right. So, for the first time in my eight-year publishing career, I did my job as word person right. I got all my material in, all my decisions made before production started. I feel infinitely more relaxed. Instead of people jumping on me for my work the instant I walk in, I often see people working on the project and they don't have any questions. They have what they need and know what to do. I'm learning much more about quality publishing. I also don't get that self-importance hit I used to get from being the center of a production mess of my own making. I'm not panicked, so it is much easier for me to observe what is really happening. We're making a good book (*Random Kindness and Senseless Acts of Beauty*). It's a book about peace and part of me wants it to make a big difference in the world, bring peace, support me and my friends for life, stuff like that. It's a good book. It's not the messiah and neither am I. But if I was in the panic zone I know I could feel much more self-important. Not having time to think I could be in a tense place where just



below the level of consciousness I'd be saying "I've got to hurry and write the title of this piece [which I could have written months ago] so this book will change everyone's mind to agree with me and we'll stop having wars. It all depends on this title." For me, panic leads in to megalomania. I bet I'm not the only one. Whatever the project, if you stay up all night working to complete it as well as you can under the circumstances, the project will seem very important and you will feel important, and exhausted.

In the C zone, things don't have to feel that important because working feels so good. It feels like it fits right in with the joyful parts of the world. The work doesn't have to be the messiah and neither do I — we're just being what we are very well and having fun.

"Having fun" might be a better way of saying "peace." "Peace" is a loaded empty word, I've noticed lately. I say I write about peace; people react like I'm dreaming of a boring world without conflict, or that I'm ignoring the many pains that exist in this world we know. What do I mean by peace?

Can you remember a time when you were working or playing with a group of people and everything seemed to come very smoothly? You could all decide what to do intuitively; anything one person couldn't bring off another person did with ease.

New ideas, new patterns, new ways of doing stuff grew among you with ease; it was like dancing. And you did whatever you were doing really well — great game, great product, great decorations for the dance. Do you remember a time like that?

What are some words you'd use to describe how that felt to you?

When Marilyn Kriegel asks her version of that question — when did you as an individual have a work high? — she says the most common word of description she gets from people is "natural." Right. Having things be smooth, productive, fun, and great-feeling feels natural. Feels natural when it happens to one person, feels natural when it happens to a group.

That happens in change groups as in other groups, but I think we don't value it enough. It's the way to do good work and keep doing it. It's the way to live in the world we dream of now. After all, peace among ourselves and the environment doesn't mean we'll be spending all our time scraping for funds and doing infighting. We need to start running the experiment now.

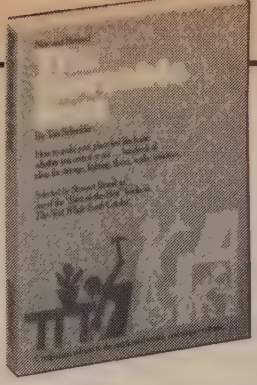
Peace. It happens all the time. If it didn't we'd be either dead or utterly miserable. What's wrong now is that a lot of people don't get to have that smooth, great feeling themselves or in a group because they're so busy struggling to survive, or struggling to overcome barriers other people have put in their way, or struggling to live in a natural environment that is too injured to support them. We want to make it so all people and other living creatures have a chance to find their own great-feeling zone to play in, to work in, so people can be their own unique selves in a world that isn't out to smash them before they start.

I suspect that a good way to do that would be to explore ourselves, and, in our groups, to explore ways to stay in our own C zone and help other people stay in theirs. That's really doing peace work in 3-D now. I think that doing what I sometimes do — feeling scared or bored and figuring it's a good way to feel in a pain-filled world — doesn't help anyone.

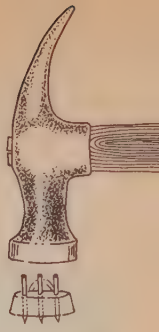
What do you think? What have you noticed about your own times of good feeling/high productivity? What are those times like for you? What are they like in groups you are in? Do you think they are important to you? Do you think they are important in world-healing work? I've told you my guesses. I'm interested in reading yours. ■

The Moveable Nest

J. BALDWIN: One of our favorite books is back in print in "new and revised" form. "New" means more of it. "Revised" means that sources and prices are current, and procedures are more code-meeting. Happily unchanged is the inspiring array of ideas intended to help you make your rented house or apartment a home without losing your damage deposit. Also unchanged is the amazing detail — absolutely the most lucid instructions I've ever seen for anything. And it's done in a commendably friendly, non-chauvinist, encouraging manner that should lure the most chickenhearted novice into action. Give a copy to someone you like.



The Moveable Nest
Tom Schneider
1984; 191 pp.
$9.70
postpaid from:
Ten Speed Press
P. O. Box 7123
Berkeley, CA 94707
or Whole Earth Access



"Bulldog Hardwall Picture Hanger"
Available in 1" and ½" sizes.

▪

For hanging really heavy objects on masonry:

The way these hangers work is a bit like the trick my dad used for getting a brad to go into concrete. He formed a collar of support for the nail with the tight grip of his fingers. This kept the nail from bending. In a similar way, the solid plastic surrounding the nails in these fasteners provides a collar of support that directs all the force of the hammer blows straight to each steel point. This, plus the extreme sharpness of the points, allows penetration of hard surfaces without the nails bending or the wall cracking.

•

Tubes can be painted, but a first coat of shellac may be needed as a sealer. Or use a primer recommended for covering bare wood and matched to the finish paint you intend to use. A faster and neater way to decorate the tubes is with self-adhesive shelf paper.

Wide Eyes in Burma and Thailand

KEVIN KELLY: Without argument the gentlest and most softly paced country alive in the twentieth century is Burma. A large, well-fed place that exports rice, maintains a rich medieval culture with rare contentment, and seems in no hurry to manufacture anything but fantastical pagodas and festivals. Observing Burmese attitudes led E.F. Schumacher towards ***Small is Beautiful****. It's easy to see why this is a traveler's Eden. It's also easy to understand why the Burmese limit all visitors' visas to seven days, no exceptions. Restricted, it's doubly seductive. This ace guide points to all the neat places to see during your one week, annotates the culture and those pagodas, assumes you want to spend only five dollars a day, and brings you to the heart of Burma quickly. The section on Thailand is likewise worthwhile.*

▪

Zegyo Night Market: The young woman scratches a match to flame (no mean trick with Burmese matches), and a candle is lit to shine on the four or five black market items she has collected on a tray. A man pumps his lantern until it exhales light on the collection of rare Raleigh bicycle parts laid out on the gravel. A board on a box is the table for a few plastic toys illuminated by a single smoking oil lamp.

▪

Many of the families who offer you a place to stay would be deeply insulted by the crudeness if you offered them money, whereas a gift, especially from abroad, would be graciously accepted — but not as payment. Symbolically, golden items such as oranges or mangos are sufficient. (It's a good idea to bring some along when you visit a home.) If you eat their meals or are in any other way a burden, a more substantial gift will be reluctantly accepted. In remoter villages, bring tobacco, matches, nuts (peanuts are less prized), Aji No Moto (MSG; despite the potential harmful effects, they love it), and photos, colored brochures, and marbles for the children.

All giving and receiving should be done with the right hand. Touch your elbow with your left hand to be extra courteous.

Wide Eyes in Burma and Thailand
(Finding Your Way)
Wayne Stier
and Mars Cavers
1983; 224 pp.
$8.50
postpaid from:
Nomadic Books
401 NE 45th
Seattle, WA 98105
or Whole Earth Access

Smoking cheroot

Meiktila Lake

The TH-ers' Express

KEVIN KELLY: Folksy newspaper "published quarterly if and when possible" concerning treasure hunting, prospecting, rock hounding, dowsing, and uncovering your fortune from the ground.

[Suggested by Louis M. Smiley]

The TH-er's Express
$5/year (4 issues)
from:
The TH-ers' Express
P. O. Box 448
Fremont, NE 68025

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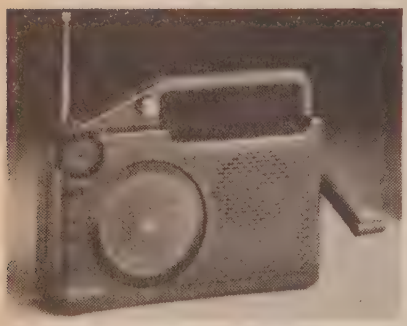
Government officials acknowledge that a substantial gold deposit has been discovered in central Mexico, but they are putting little public emphasis on the find for fear of repeating the economic bust that followed the nation's oil boom of the late 1970s.

El Barqueno gold field, found last November in Jalisco state 335 miles northwest of Mexico City, has a motherlode officially estimated at 3 miles long and about 40 feet wide, with a yield of 5 to 15 grams of gold per ton of earth. It also is estimated to hold 20 grams of silver per ton of earth and variable quantities of lead, iron and zinc. There are 31.1 grams in a troy ounce, the standard measure for gold and silver. Only 5 percent of the 12,103 acre area believed to contain gold has been explored to date.

AM/FM Crank Recharging Radio

JOHN BENECKI: *This is a sturdy no-frills AM/FM solid-state set intended for remote and emergency use; one minute of cranking gives an hour of listening. It can also take a 20-hour charge from house current on its twin NiCad batteries. One wishes for an additional shortwave model next.*



Kings Point Crank Recharging Radio
$69.50
postpaid from:
Hammacher Schlemmer and Co.
147 East 57th Street
New York, NY 10022

Composite Construction For Homebuilt Aircraft

DICK FUGETT: *The variety of aircraft being built with the new fiberglass composite construction techniques continues to push the edge of aviation design. The upcoming Beechcraft Starship, a 400 mile-per-hour twin turboprop pusher, is an example, as is the Rutan Voyager. Both are canards, with the wing in back and the tail up front. The Starship will be the sleekest of business planes while the Voyager, which resembles a mutated P-38 flying backwards, has little to offer in the way of charm. But with a 110-foot wingspan, two pilots, and five tons of gas, the Voyager is taking on the last challenge of earthbound aviation — a nonstop flight around the world.*

The advantages of composite construction, strength and lightness, also appeal to many who plan to build their own planes at home, but despite the publicity that "plastic planes" have received there's been precious little to read for the interested observer. Here's the first book to give a good look at how blocks of rigid, closed-cell foam are cut with a hot wire and then covered with layers of fiberglass and epoxy resin to create a machine that's smooth, light, and strong.

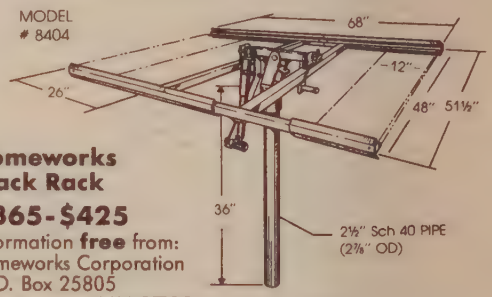
Composite Construction for Homebuilt Aircraft *opens by giving some basics of aeronautical design, then turns to the main topic — the techniques and materials for building composite aircraft. There's also an up-to-date survey of most of the homebuilts now available, a list of equipment suppliers, and the standard warnings on epoxy toxicity, the Achilles heel of the whole operation. Take all the precautions — although rubber gloves and a mask are a drag, the plastic-caused rash/dermatitis is worse.*

You probably won't build a plane from this book, but you'll certainly understand what's involved in the project, and from there you can make up your own mind.

Composite Construction for Homebuilt Aircraft
Jack Lambie
1984; 238 pp.
$18.90
postpaid from:
Zenith Aviation Books
P. O. Box 1
Osceola, WI 54020

Zomeworks Track Rack

J. BALDWIN: *This second-generation model of Zomeworks' famous no-motor design keeps your photovoltaic panels aimed at the sun with better accuracy, less wind sway, and cleaner appearance than its worthy predecessor. Even better, it ships cheaper and actually costs less — a feat not easily accomplished. A professional job in every respect, the new tracker is a fine example of fully developed hardware from a maturing industry.*

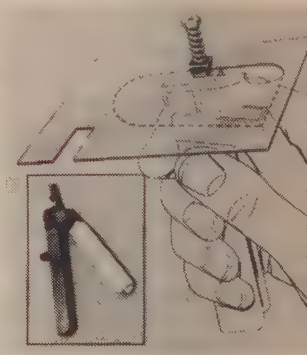


Zomeworks Track Rack
$365-$425
information **free** from:
Zomeworks Corporation
P. O. Box 25805
Albuquerque, NM 87125

Nibbler

J. BALDWIN: *Like a mouse with one sharp tooth, a nibbler takes little bites out of sheet metal or plastic until you have the shape you desire. Unlike a mouse, you can start out in the middle of a piece (from a 7/16-inch starting hole) and make a hole any shape you wish, without distorting the material as snips do. It'll do delicate work on metal up to 18-gauge — just the ticket for fitting metal siding or roofing around obstacles of strange contour. Nibblers have their uses in electronics too. This one, by the reputable Vaco company, seems nicely made. I use one often.*

Nibbler
(Catalog no. 10038800)
$12.98
postpaid from:
D.R.I. Industries, Inc.
11300 Hampshire Avenue South
Bloomington, MN 55438
(or check your local hardware store)



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For homebuilt fiberglass airplanes, sunshine on a hot day can soften the airplane to 75% of its cold strength. If the plastic reaches 150 degrees Fahrenheit it will soften enough to bend and take a permanent set when cooled. In fact, wing aerodynamic heaviness can be corrected by painting an incorrectly twisted wing with black tempera, a poster paint easily washed off with water. Let it heat in the sun while bracing with boards or weights to bend it in the desired manner. After several hours in the sun, see if the new twist is correct. Wash the dark water color paint off the wing with water. A test flight will then tell if it has eliminated the wing "heaviness."

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Quality Control
One of the unique features of the glass-foam-glass composite construction technique is the ability to visually inspect the structure from the outside. The transparency of the glass/epoxy material makes it possible to see all the way through the skins and even through the spar caps.

Building & Flying Indoor Model Airplanes

J. BALDWIN: The rather arcane enterprise of indoor flying has been going on for more than 40 years, though it doesn't make Page One very often. It's a sport that carries some of the ambience of computer hacking — the stress is on performance and elegance. Your plane is irrefutable evidence of your clarity of thought and ability to apply it craftily and expertly. It's fish-or-cut-bait, too; it flies or it doesn't. The book is very experienced, and friendly to the point of being enticing. The plans and instructions are of a quality that accurately bespeaks the spirit of the whole business. You couldn't ask for a better introduction.

•

The rubber-powered plane is powered by a wound-up rubber band. It is possible to turn more than 100 turns per inch into the thinner rubber bands. A rubber motor for some types will often hold more than 2,000 turns. This means that if the propeller is large enough, it will turn slowly (say 60 revolutions per minute) as the rubber unwinds; the plane will fly, theoretically, for 33 minutes on 1,800 turns. There are many factors which may prevent such a figure from being reached; there are also factors which will help to exceed those figures.

•

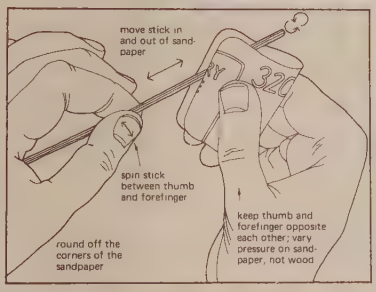
Winding rubber motors requires a certain level of skill when maximum winding is required. There are few efforts so nerve-racking as that of transferring a 17" loop of rubber with 2,000 turns wound into it from the winder and torque meter to a motor stick that weighs little more than a hundredth of an ounce. The rubber is nearly rock-hard with the energy stored in it, and it's a hair's breadth from exploding into a writhing mass or collapsing the motor stick into fuzz. I've had my hands shake so much that I've broken a plane just from the violence of *my own* vibrations. When I'm in that state, I do some deep breathing and a bit of meditation to slow things down.

•

One of the most beautiful flights I've ever seen was that of Bill Tyler's FAI ship on a calm, sunny Sunday afternoon in June, in the Rotunda of Columbia University's Low Library. The plane flew for 25 minutes, never above 75 feet, with an unchanging 65-foot circle, coming within five feet of the walls on each turn, perfectly centered in the space. The plane's film gave off a flare of color each time it passed through the sunlight.

Building & Flying Indoor Model Airplanes
Ron Williams
1984; 271 pp.
$16.45
postpaid from:
Peregrine Smith Books
P.O. Box 667
Layton, UT 84041
or Whole Earth Access

Marnie Meuser, age 10, launches her *No Non-Cents* Pennyplane model.

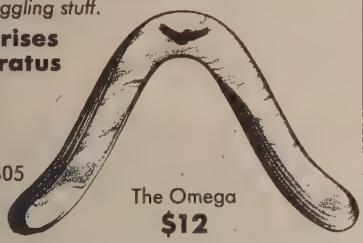


Rounding square balsa to form a dowel. Be careful when pushing into the sandpaper not to use too much pressure, collapsing the stick.

Flying Apparatus Catalogue

KEVIN KELLY: Mostly items that go up and take a while before they hit the ground: boomerangs, kites, jump ropes, frisbees, juggling stuff.

Klutz Enterprises Flying Apparatus Catalogue
free from:
Klutz
P. O. Box 2992
Stanford, CA 94305



The Omega
$12

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The Omega is a more advanced boomerang. It has a 40 yard turning radius (you'll have to find a bigger park), and it demands a stronger toss. But of all the longer range boomerangs we looked at, the Omega was far and away the most accurate.

The name comes from the somewhat radical design, similar to the Greek letter. It's used in boomeranging to create more wing surface for a given tip-to-tip distance, and among serious throwers it is probably more common than the traditional crescent shape.

Like the SkyTurn, the Omega is Finnish birch plywood, aircraft quality, and sealed with a fruitwood finish.

Please specify right or left handed (they're different).

Aerobie

KEVIN KELLY: Better than a frisbee, this astonishing new flying ring will soar three times as far for the same arm energy. It's easier to throw forehand, easier to catch (just stick your arm through it), easier to carry (wear it like a necklace), and easier to aim — at least for me. Boomerang and sailboat designer Alan Adler's other flying disk, the Skyro, holds the Guinness world record for the greatest distance of an inert hand-thrown object — 286 yards. He offers a $1,000 cash prize to the first person who can beat that with an Aerobie. Shouldn't be a problem: as Richard Nilsen noted, its one drawback is that it usually goes too far.

Aerobie
$7.95
postpaid from:
Aerobie
P.O. Box 2025
Dallas, TX 75221

WHOLE EARTH Software Catalog VERSION 1.2

ART KLEINER: *Through these ongoing updates and reviews, the* ***Whole Earth Software Catalog*** *is a living book. This section presents the best, most interesting new software and computer-based tools that we've seen. It also notes changes, new versions, or just new opinions about products we've already reviewed. The fine-toothed detail is necessary because computers and software change so quickly. If you've bought the* ***Whole Earth Software Catalog****, this section will keep it up to date. If you haven't, but are considering buying a computer, this section will clue you in to the best that we have found recently, and why it excites us.*

MAGAZINES

DELETED SINCE JUNE 1984:

Whole Earth Software Review — *merged into this magazine*
Softalk — *the users' voice, now defunct*
K-Power — *for the young obsessive, now defunct*

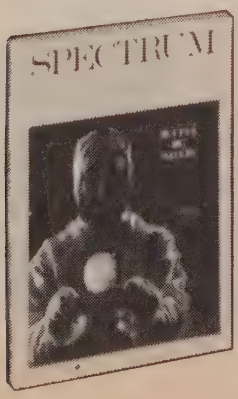
RECOMMENDED SINCE JUNE 1984:
The User's Guide — *ongoing series of tutorials*
Computer Book Review — *good for finding books*

RECOMMENDED HERE:
IEEE Spectrum
A+

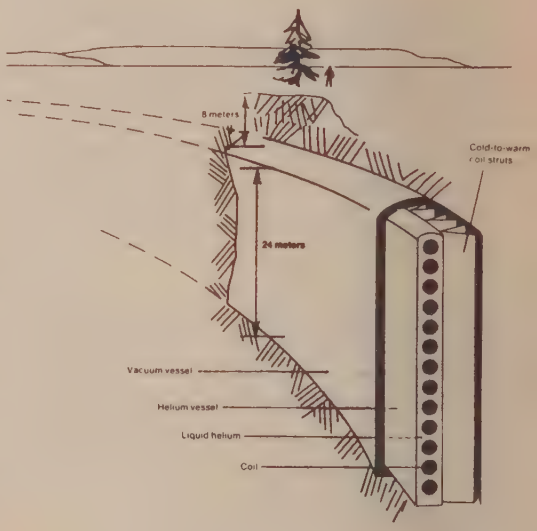
Not just for engineers . . . IEEE Spectrum

STEVE UPSTILL: *Here is the hard poop on the latest in electronic technology. It has astonishing and bewildering tech reports for the hard-core, but what distinguishes it is an emphasis on social and political ramifications (a special issue on technology in war and peace won a Pulitzer last year). Other distinctions include crisp writing and intriguing ads. Here I have read about: new video-game techniques; prospects for high-definition TV standards; "smart" credit cards with built-in integrated circuits; New York's new fuel-cell power plant; issues in technology-transfer controls; the first realistic discussion of who-knew-what-when re doomed jetliner KAL007. Every library should get this magazine.*

ART KLEINER: *All true, plus every issue has a fine illustrated story about technology history.*



IEEE Spectrum
Donald Christiansen, Editor
$80
annual membership (12 issues) from:
IEEE Service Center
445 Hoes Lane
Piscataway, NJ 08854



A technique that would store thousands of megawatt-hours of electrical energy with efficiencies of greater than 90 percent would involve burying a 1568-meter wide, 112-turn long magnetic coil bathed in liquid helium. The energy would be stored in the magnetic field of the coil, and resistive losses would be virtually zero due to the coil's superconductivity. Among the questions that would have to be considered is: What is the effect of a large, slowly varying magnetic field on communications signals, navigational equipment, and animals?

Indispensable Apple II mag A+

STEVEN LEVY: *With the premature demise of* ***Softalk*** *(see* ***WER*** *#44), my favorite Apple II magazine is* ***A+****. Though the tone of the magazine is stiffer than was* ***Softalk's****, and doesn't quite reflect the freewheeling spirit of the Apple world,* ***A+*** *has a cleaner, easy-to-read look and plenty of helpful articles. Products for the Apple II family are usually reviewed in roundup articles (one month you'll*

A+
$24.97/year
(12 issues) from:
A+
P.O. Box 2965
Boulder, CO 80322

see music-making software, another month a comparison of modems. This is not as useful as a continual barrage of new-product reviews. But if nothing else, ***A+*** *is indispensable for its ad pages, which represent a virtual catalog of what's new for my machine.*

UPDATE

Egregious overstatement

STEWART BRAND: ***Byte*** *columnist Jerry Pournelle is understandably unhappy with the following remark in the review of* ***Byte*** *in the* ***Whole Earth Software Catalog*** *(p. 10): "...The controversial columnist here is science fiction writer Jerry Pournelle, whose writing is regarded by Tony Fanning as a 'truly irritating extended advertisement for himself, his family, and his friends who just happen to be business associates."*

My error. No excuse. I did not check the quote with Fanning and should not have run it in any case. Please amend the commentary to this: " ***'...for himself, his family and his friends.' On the other hand, Pournelle's passionate, subjective column adds balance to a magazine that is otherwise a bit stiff."***

That revision will appear in the next printing of the ***Whole Earth Software Catalog.*** *Meanwhile, my apologies to Jerry Pournelle.*

ART KLEINER: ***InfoWorld****, the premier magazine of microcomputer industry news and gossip (****WESC*** *p. 10), is about to become a business computing magazine, targeted at the same readers who read* ***PC Week*** *(corporate readers, whom advertisers love because they buy in volume). Editor Stewart Alsop, who was oriented toward trade and (some) investigative reporting, suddenly resigned in November, reportedly because he disagreed over editorial direction with publisher Thomas Kothman. Kothman wanted fewer articles that might alienate advertisers (like one which referred to Radio Shack's "schlock image").*

We've heard that the publishers asked the staff to stop reporting on home computers and games, to emphasize business uses of micros (including multi-user systems), and to de-emphasize industry gossip and technology. If ***InfoWorld*** *changes from the* ***Time*** *of microcomputing to just another business magazine, it will leave a tremendous void; no other magazine tries to tie the diverse industry together. What actually happens will depend on their new editor Jim Fawcett, formerly executive editor of* ***Personal Computing****.*

If you feel strongly about ***InfoWorld's*** *direction, write the owner: Pat McGovern, CW Communications, 375 Cochituate Road, Framingham, MA 01701.*

I've followed ***InfoWorld*** *five years, since its birth as a tabloid newsletter. It's had many editors and publishers (and launched many good computer writers), but it's never been as cogent and dependable as during Stewart Alsop's term.*

MAGAZINE UPDATE ACCESS

Byte ($21/year; 12 issues): Byte Subscriptions, P.O. Box 590, Martinsville, NJ 08836; 800/258-5485 • **InfoWorld** ($22.95/year; weekly): InfoWorld, 375 Cochituate Rd., Framingham, MA 01701; 800/343-6474 or, in MA, 617/879-0700.

HARDWARE

RECOMMENDED SINCE JUNE 1984:

Radio Shack Color Computer — *a learner's computer*
Mindset — *graphics and sound potential*

RECOMMENDED HERE:

More Than You Ever Wanted to Know About Hard Disks for Your IBM PC

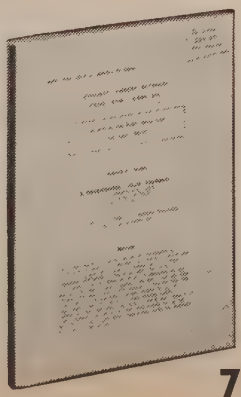
More Than You Ever Wanted To Know About Hard Disks For Your IBM PC

RICHARD DALTON: *This is an 84-page gold mine of the most sensible stuff I've ever seen written on this specific (and important) topic. (Important because anyone doing large-scale writing, database management, or business-running with a PC will eventually want a large-capacity hard disk, faster and much more convenient than floppy disks.) The book recommends specific units and tells how compatible they are to the IBM's own hard disk microcomputers, the PC/XT and PC/AT. Interesting sidelight: according to their logical speed-rating formula, hard disks are always faster than floppy disks, and nothing goes faster than a RAM disk (a simulated disk drive built into a memory chip). However, the new IBM PC/AT with hard disk runs as fast as a regular PC with RAM disk. That's the first time I've seen a speed comparison that makes sense to the typical user. The self-publishers charge $25, but they've put in one hell of a lot of work. As they say in Hollywood, the production values are weak; only the content makes it worthwhile.*

•

You can add a high-performance 10-megabyte hard disk to an IBM PC for about $1050 (including add-on power supply/fan combination); add the price of an IBM PC and you have a combination that outperforms an XT yet costs over $1000 less. So unless you desperately need 6 full-size slots (plus one available short slot) instead of 5 full-size slots, there's little reason to buy an XT.

More Than You Ever Wanted To Know About Hard Disks For Your IBM PC
Robert E. Brown
1984; 84 pp.
$27
postpaid from:
Landmark Software
1142 Pomegranate Court
Sunnyvale, CA 94087
or Computer Literacy



PLAYING

DELETED SINCE JUNE 1984:

ALICE — *replaced by THROUGH THE LOOKING GLASS*
VYPER — *a Mindset game, still not released*

RECOMMENDED SINCE JUNE 1984:
BC's QUEST FOR TIRES — *a funny computer game*
QIX — *your only offense is defense*
PITS AND STONES — *pit yourself against Pitman*
HEROISM IN THE MODERN AGE — *lets you be yourself*
THE ARCADE MACHINE — *shoot-em-up construction kit*
EXECUTIVE SUITE — *playing out company politics*
SUNDOG — *like a space movie*
RUN FOR THE MONEY — *capitalism in outer space*
POGO JOE — *challenge and reassurance*

RECOMMENDED HERE:
SUMMER GAMES
THROUGH THE LOOKING GLASS

Gold medals, no injuries . . . SUMMER GAMES

Copy-protected. $40. Commodore 64; Atari. Requires joystick. Epyx, Inc., 1043 Kiel Ct., Sunnyvale, CA 94089; 408/745-0700.

STEVEN LEVY: *It took me a while to approach SUMMER GAMES. I was sick of Olympiana. But consistent reports that this game was addictively wonderful kept reaching me, especially from the Silicon Valley offices of* **Byte** *and* **Popular Computing**, *where this program seems to be an obsession among the editorialites. I found the hype justified.*

The format is much like a previous computer trailblazer, Microsoft's three-year-old OLYMPIC DECATHALON, in that you are tested in several events. But you see immediately how far software artistry has come in the opening screen of SUMMER GAMES; unlike DECATHALON's stick-figure man, you have a flesh-and-blood, full-color runner setting a torch ablaze in a full arena; a billowing cloud turns to a flock of doves. It sets the scene for the competition, in which up to eight players may choose to represent any of 18 countries in the quest for gold. (After each event, the game plays the national anthem of the winner.) The events are the pole vault, diving, 100-meter run, 400-meter relay, gymnastics, freestyle swim relay, 100-meter swim, and skeet shooting. Complexity varies, but quality of graphics and animation are consistent.

The best is the gymnastic competition. Using the joystick, you control a female competitor on the pommel horse. After a while, you will learn to twist, turn, and straighten up to — if you're good — a firm landing. The little set-step and the calamitous fall resulting from an overly risky or poorly planned jump are astoundingly reminiscent of the scene in Los Angeles when Mary Lou Retton pulled through. Then you hold your breath as the judges hold their cards. It's enough to cancel out ten of Mary Lou's Wheaties commercials.

SUMMER GAMES is considerate. There is a practice mode that allows you to develop skills on any of the events, as much as you want, without reverting to one of those endless Commodore reloads. Everyone uses this function to work out new moves on the platform dive, correct timing on the pole vault, etc., so that the next competition will yield more medals, more glory. To beat your friends, you must spend long hours at the keyboard, sacrificing your personal life. Amateurism at its best. The Olympic ideal, realized at last!

UPDATE
Adaptations and evolutions

STEVEN LEVY: *Just as we went to press with the first* **Whole Earth Review**, *in came an updated version of a game reviewed therein — Bruce Webster's SUNDOG, published by small but cheeky FTL Software in San Diego. Version 2.0 adds more planets, more interstellar encounters with weird beings, and is a generally enriched incarnation of an already loaded package. And it's free to anyone with the original game. If every publisher was like FTL, there'd be a happier software populace.*

EPYX SOFTWARE

The pole-vaulting event in SUMMER GAMES, with the best graphics of just about any sports game around. For the diving event, see the back cover.

My favorite movie adaptation of the season is Activision's GHOSTBUSTERS. Written with stunning graphics and the best soundtrack I've heard on a videogame (playing — what else? — that catchy Ghostbusters! theme), it's a lot of fun, though not cerebrally engaging. Another nomination for "best game adapted from another medium" is Info-Com's HITCHHIKER'S GUIDE TO THE GALAXY. A text adventure adapted from guess what.

*Public Domain on the Macintosh continues to yield treasures. I've been toying with a version of REVERSI hacked by WIZARDRY author Robert Woodhead. Some know this game as "Othello", but that name — with no apologies to Shakespeare — is trademarked. It's hard to beat, and available at a user's group near you. In the private domain, I'm consistently getting clobbered by the chess master SARGON III (***WESC** *p. 40), which on the Mac is even better than when we first recommended it. Also newly converted to Macintosh are THE QUEST and LODE RUNNER (***WESC** *pp. 41 and 37). And Apple computer has finally released the wonderful ALICE (***WESC** *p. 30), under the title THROUGH THE LOOKING GLASS. Author Steve Capps has added some devilish new features, and it comes in a package resembling a fine small-press book.*

*MONTY PLAYS SCRABBLE (***WESC** *p. 39) switched publishers — from Ritam to EPYX. That latter company has also enhanced PITSTOP (***WESC** *p. 35), making it a two-player game, kind of. Both racers go at the same time on a split screen. Why not the same track, with collisions and all?*

Here's a new wrinkle in the finally-released version of the pastiche chess game THROUGH THE LOOKING GLASS (formerly called ALICE). Click the Macintosh mouse over the smile of the Cheshire Cat in the game's menu, and the playing board appears (as here) upside-down. Oddly enough, some players get better scores this way.

ART KLEINER

*Some of you players stuck at problems in various adventure games often resort to hint books, like the deluxe ones published by Infocom for its knotty games. A sequel to one of the cheaper "cheat books" (**WESC** p. 43) covers those Infocom games. **A Shortcut Through Adventureland, Vol. II**, handles ten Infocom'ers, and though I wish the book was more subtle in its hints (sometimes you can't help but look at stuff that solves problems you haven't encountered), it is a bargain at $9.95.*

PLAYING UPDATE ACCESS

SUNDOG ($40): FTL Games, Inc., 7907 Ostrow St., Suite F, San Diego, CA 92111; 619/279-5711 • **GHOSTBUSTERS** ($35): Activision, Inc., 2350 Bayshore Frontage Rd., Mountain View, CA 94043; 800/633-4263 or, in CA, 415/940-6044 • **HITCHHIKER'S GUIDE TO THE GALAXY** ($35-40): Infocom, 55 Wheeler St., Cambridge, MA 02138; 617/492-1031 • **REVERSI** (public domain; available only through users' groups) • **SARGON III** ($50): Hayden Software Co., 600 Suffolk St., Lowell, MA 01853; 617/937-0200 • **QUEST** (Macintosh version, $40): Penguin Software, 830 4th Ave., P.O. Box 311, Geneva, IL 60134; 312/232-1984 • **LODE RUNNER** (Macintosh version, $40): Broderbund Software, 17 Paul Dr., San Rafael, CA 94903; 415/479-1170 • **THROUGH THE LOOKING GLASS** ($40): Apple Computer, 20525 Mariani Dr., Cupertino, CA 95014; 408/996-1010 • **MONTY PLAYS SCRABBLE** and **PITSTOP** ($40 each): EPYX, Inc., 1043 Kiel Ct., Sunnyvale, CA 94089; 408/745-0700 • **A Shortcut Through Adventureland, Vol. II** by Richard O. Lynn, Paul Ashley, Michael W. Sloan. 1984; 139 pp., $13.45 postpaid from Datamost, Inc., 20660 Nordhoff St., Chatsworth, CA 91311 or Computer Literacy.

WRITING

DELETED SINCE JUNE 1984:

MICROSOFT WORD — *fine on IBM; still not here yet for the Macintosh*
WORDVISION — *creative but unsupported*

RECOMMENDED SINCE JUNE 1984:
TEXT POWER 100 — *formatting for the Model 100*
TUTOR+ — *portable typing tutor*
TEXT+ — *make your lap computer a typewriter*

RECOMMENDED HERE:
SKIWRITER II
VOLKSWRITER SCIENTIFIC

Fast, easy and telecommunicative on the Commodore 64 . . . SKIWRITER

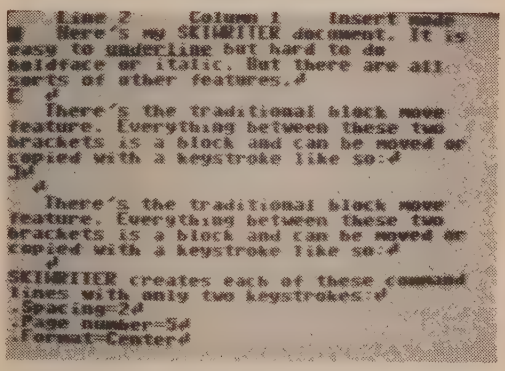
Ken Skier. $70. PCjr; Commodore 64. Prentice-Hall General Publishing Division, Englewood Cliffs, NJ 07632; 800/624-0023 (in NJ, 800/624-0024).

ART KLEINER: *I find VOLKSWRITER's name pretentious for a program on the $3,000 IBM PC. Running on the $300 Commodore 64, SKIWRITER II is a cheap, easy-to-use true volks-writer (and volks-telecommunicator) for the Commodore Lumpenproletariat.*

SKIWRITER almost makes the Commodore's abysmal keyboard palatable, and offers a few IBM PC-grade features: automatic word wrap (the paragraphs cutely reshuffle themselves as you insert new text); intuitively graceful editing commands (with a template card for the keyboard); and a dozen formatting options (you have to be a little hacker-ish to implement bold and italic, but you can underline text with the underline key, just like a typewriter does). Since SKIWRITER comes on a cartridge plugged into the back of the computer, it's fast and roomy. You can fit more than 20 double-spaced pages' worth of text into a single document.

With its telecommunications commands, SKIWRITER is optimally designed for composing a several-paragraph message, getting it the way you want it before you get online, and sending it to a remote network or direct to someone else's computer. It also receives text easily, although you must remove incoming carriage returns with the program's search-and-replace function. And it handles with aplomb the normally arduous task of saving files to the Commodore disk drive.

SKIWRITER tries some fancy dance steps in telecommunicating; occasionally it steps on your toes. To upload a document to most networks, for instance, you need to set the spacing and left margin to 0, a solution not noted yet in the manual. You may prefer the capable C64 TERM, which comes with the Commodore Automodem ($80), for its automatic log-ins, but SKIWRITER handles simple work nicely. No comparable package on any computer writes and telecommunicates for as low a price, except maybe the Radio Shack Model 100, and you can't play games or make music with the Model 100 when your work is done.



ART KLEINER

SKIWRITER on the Commodore 64 has many features normally found in expensive IBM PC word-processing programs. The edit mode shown here only permits text 40 characters wide, but a separate preview mode let you see how your writing will look on an 80-character-wide printed page.

Compared to OMNIWRITER, SKIWRITER is much easier to start with and use. OMNIWRITER is clumsy with simple tasks like inserting text into a paragraph. SKIWRITER has a much better manual and includes telecommunications. OMNIWRITER has a spelling checker, mailmerge, and what appear to be a few lingering small bugs. The programs are equally fast at jobs like search and replace. I'd choose SKIWRITER.

SKIWRITER also runs on the IBM PC and PCjr, with extra features (like an UNDO *command), but it's not nearly as needed there.*

UPDATE

Waiting for MacWord

STEWART BRAND: *MICROSOFT WORD update. Though still the top do-everything word processing program for IBM PC-compatibles, WORD (**WESC** p. 60) still has a truly lousy manual, and the promised books on the subject from Microsoft Press have yet to appear. For now the best clarifier is a quiet, competent little book, **Microsoft Word on the IBM PC.** It covers the current model of WORD, Version 1.1. As for WORD on the Macintosh, keep waiting. The first quarter of 1985, they say. ("Quar-*

ter." Do you get the feeling the entire computer business is run by financial types?)

*PC WRITE update. This best of all buys (**WESC** p. 59) is better still every couple months. The new Version 2.3 has added on-screen page breaks, footnotes, decimal tabbing, temporary margins, improved keyboard macros, and the ability to reformat a whole file at once instead of paragraph by paragraph. At Whole Earth, where we have our pick of any of 200 word processors free, PC WRITE is the most commonly used. You can get it free too, from any user's group. Or $10 from author Bob Wallace in Seattle.*

***RICHARD DALTON:** VOLKSWRITER (**WESC** p. 58) update. The new scientific version is out ($500, VOLKSWRITER SCIENTIFIC). Very specialized. Edits on a line-by-line basis. Eight or nine character sets, including scientific, engineering, Greek, etc. Totally bit-mapped — it controls each of the dots (pixels) that compose characters on the screen or printer, even on a standard monochromatic screen. Output via a Toshiba 1350 printer would put even Mac/Imagewriter to shame, though it's much more complex than MACWRITE.*

***STEWART BRAND:** Next issue we hope to evaluate the new WORDSTAR 2000 and the wholly revamped PERFECT WRITER. If you have experience, good or bad or both, with these programs, let us know about it. Likewise, people who are happy or unhappy with writing on Epson's new $1,000 portable, the Geneva, speak up.*

WRITING UPDATE ACCESS

MICROSOFT WORD ($375; with mouse, $475): Microsoft Corp., 10700 Northup Way, Box 97200, Bellevue, WA 98008; 206/828-8080 • **PC WRITE** (shareware, $10; full registration, $75; commission to registered users who have had others register from their shareware, $25): Quicksoft, 219 First Ave. North #224, Seattle, WA 98109; 206/282-0452 • **VOLKSWRITER SCIENTIFIC** ($500): Lifetree Software, Inc., 411 Pacific St., Monterey, CA 93940; 408/373-4718 • **WORDSTAR 2000** ($500): MicroPro International Corp., 33 San Pablo Ave., San Rafael, CA 94903; 800/227-6703 or, in CA 800/632-7979 • **PERFECT WRITER** ($95–$200): Thorn EMI Computer Software, 3187-C Airway, Costa Mesa, CA 92626; 800/621-8900 or, in CA, 714/751-3778 • **Epson Geneva** ($1000): Epson America, Inc., 3415 Kashiwa St., Torrance, CA 90505; 213/534-0360 • **Microsoft Word on the IBM PC** by John F. Kirk. 1984; 248 pp., $17.45 postpaid from Prentice-Hall, Inc., Box 500, Englewood Cliffs, NJ 07362 or Computer Literacy.

ANALYZING

DELETED SINCE JUNE 1984:
WORKSLATE — *defunct spreadsheet lap portable*

RECOMMENDED SINCE JUNE 1984:
LUCID — *powerful Model 100 spreadsheet*
TELESTOCK — *lap computer stock price checker*
TENKY+ — *portable computer calculators*

RECOMMENDED HERE:
SOLOMON

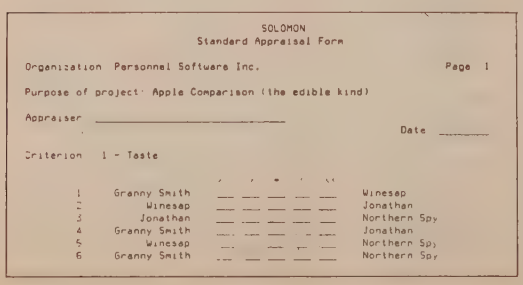
For anticipating the group mind . . . SOLOMON

Copy-protected. $500. IBM PC/compatibles (192K; full program requires hard disk). Personnel Software Inc., 317 Barton Ct., Danville, CA 94526; 415/831-1697.

***WOODY LISWOOD:** Say you have decided to upgrade your employee benefit program. But you have no idea how your employees would respond to new benefits or changes. So you develop a list of current and future benefits. Then you have SOLOMON develop a set of survey questions which you have each of your employees complete. The questions might look something like this:*

	1	2	3	4	5	
more vacation	|	|	|	|	|	**no-deductible dental**
more vacation	|	|	|	|	|	**lower medical deductible**

A check in box 1 would mean that the item on the left side is much more important than the item on the right side. A check in 2 would mean that the left item is slightly more important. A 3 would mean that they are of equal importance. And so on.


SOLOMON
Standard Appraisal Form

Organization Personnel Software Inc. Page 1

Purpose of project: Apple Comparison (the edible kind)

Appraiser _____

Date _____

Criterion 1 - Taste

1	Granny Smith	Winesap
2	Winesap	Jonathan
3	Jonathan	Northern Spy
4	Granny Smith	Jonathan
5	Winesap	Northern Spy
6	Granny Smith	Northern Spy

ART KLEINER

SOLOMON takes all of the results and ranks the entire set of items according to their importance to employees. You also receive a relative value order, which gives you the magnitude of difference between each item. You can have up to 25 raters (survey respondents) and 50 items. In addition, you can specify partial subsets. And each rater does not have to evaluate each item for the program to work. SOLOMON does only one thing — this type of paired comparison with multiple criteria — and does it very well.

UPDATE

Not quite CRISP yet

***WOODY LISWOOD:** SUPERCALC3 (**WESC** p. 69) is now shipping their extended version which allows something like 9,000 rows. ABSTAT (**WESC** p. 75) has also started shipping a new version. It behaves as in the past, but has been speeded up, even if you do not have an 8087 chip. CRISP, a program I mentioned last issue, has a few bugs. They attempted to tell me that it was my fault that their program went berserk on me. So, beware. CRISP still has an impressive array of features, but I would wait a few more months to give them time to fix it. Also, beware of CURVE FITTER and SCIENTIFIC PLOTTER (**WESC** p. 76) if you don't have an IBM PC; I recently discovered that these programs don't run on PC compatibles.*

ANALYZING UPDATE ACCESS

SUPERCALC3 ($400): Sorcim/IUS Corp., 2195 Fortune Dr., San Jose, CA 95131; 408/942-1727 • **ABSTAT** ($400): Anderson Bell Co., P.O. Box 191, Canon City, CO 81212; 303/275-1661 • **CRISP** ($500): Crunch Software, 2547 22nd Ave., San Francisco, CA 94116; 415/564-7337 • **CURVE FITTER** ($35-$95) and **SCIENTIFIC PLOTTER** ($25-$95): Interactive Microware, Inc., P.O. Box 139, State College, PA 16804; 815/238-8294.

Said *Whole Earth Review* editor Kevin Kelly, "I always wondered how different people would comparatively rate the tastes of different apples." This survey form generated by SOLOMON (after only fifteen minutes' work) will help answer his question. The form doesn't merely ask which is the best-tasting apple; it poses successive pairs of apples and asks which tastes better, and how much better.

ORGANIZING

DELETED SINCE JUNE 1984:
SEQUITUR — *outdated*
RBASE:4000 — *replaced by DBASE III and SMART DATA MANAGER*

RECOMMENDED SINCE JUNE 1984:
HABADEX — *an address/phone/date jukebox*
FILEVISION — *organize your diagrams*
DBASE III — *replaces DBASE II on IBM PC*
MAXTHINK — *better than THINKTANK on IBM PC*

RECOMMENDED HERE:
SUPERBASE (Commodore 64 version)
SMART DATA MANAGER

Overkill on the Commodore, but it works . . . SUPERBASE

Simon Tranmer and Tom Cranstoun. Copy-protected. Commodore 64 ($100); Apple IIc/IIe ($149). Precision Software, Inc., 3003 Summer St., 4th floor, Stamford, CT 06905; 203/326-8649.

ART KLEINER: *We kept hearing good reports about the Commodore 64 version, so I asked Commodore user/database aficionado John Seward to check this program out versus its competition. His conclusion: if you want a computer to run a database management system on, don't buy a Commodore. But if you already have a Commodore and need a database system, get this one. Simpler file managers (to put up, say, a Christmas mailing list) are available for the Commodore; we haven't found one sound enough to recommend yet, but we're still looking. We haven't yet evaluated the SUPERBASE Apple version.*

JOHN SEWARD: *This database management system from England is proof that Commodores are considered business machines on the other side of the Atlantic. Admittedly those are more powerful, more expensive machines, but their software works on the Commodore 64 sold here.*

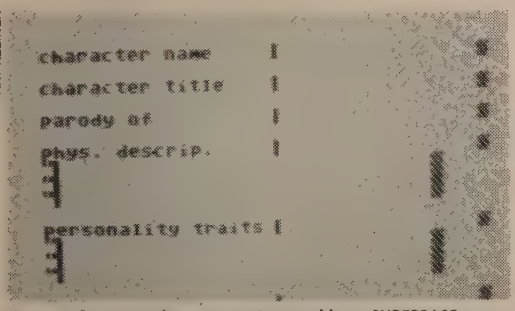
This product is a complete database programming language, equal in scope to DBASE II. Like DBASE, it's designed for keeping several linked databases — a set of inventory records updated regularly by a list of orders, or a mailing list that shares names with a set of customer records. You can do complex calculations with SUPERBASE, have one file automatically update another (although you can only link two files at one time), and print reports with headings, totals, and breaks on key fields.

Even with a large number of records, SUPERBASE runs fast, except when it has to pull data off the disk. That makes it slower than a program on the IBM PC, but (unlike many database programs) the lag time doesn't increase much as you add records. SUPERBASE's programming language is really a simplified BASIC with extra commands added. A set of menus helps you design input screens, sort records, and print out data reports. You can use the menus entirely, bypass the menus and rely on the SUPERBASE language, or mix them. One exception: The package includes a primitive program for printing mailing labels. Anyone wanting to print three labels across must modify the SUPERBASE code. You'll need to know BASIC for this.

The major limit to SUPERBASE is the Commodore's limited memory space and inferior disk drive. By the time you have 15 files in your database with 1000 character records, as well as help and memo screens and indices to several different fields in each file, there will only be room for about 7 records per file. To use SUPERBASE profitably, you will need to hook your 64 up to a more powerful disk drive, like the 4040 dual drive or even a hard disk drive.

[Suggested by Marlon G. Kennedy]

ART KLEINER



Writers of two simultaneous satires could use SUPERBASE to keep their characters straight (it can share information between two separate databases). Here, a data entry screen is set up: you name each field, and then indicate its beginning (with a vertical bar) and end (with a squiggly bar). When the time comes to enter text, it will have to fit between those two markers.

A high IQ database in a coordinated coordinated software group . . . THE SMART DATA MANAGER

Version 1.1. Copy-protected. $495. IBM PC/compatibles (256K). Innovative Software, Inc., 9300 West 110th St., Suite 380, Overland Park, KS 66210; 913/383-1089.

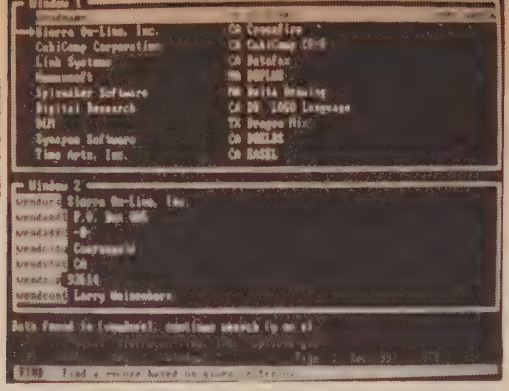
SHARON RUFENER: *Some software products get announced months before they appear on the market. Others quietly sidle into the marketplace without fanfare. If we had known about this dazzling database manager and its extended family when we were out researching the* **Catalog**, *it would have been prominently featured.*

This is one of three powerful integrated programs which can be purchased and run separately. The other two components — THE SMART WORD PROCESSOR and SMART SPREADSHEET — also look wonderful, but we're still comparing them to the competition. Meanwhile, we're impressed by the control language, format, and design philosophy that all three packages share. In each, you can specify your "Confidence Level" and get the commands appropriate to your expertise; basic commands if you are a beginner, more choices if you are intermediate, and all the available commands if you are expert. You can train each program to repeat a sequence of commands by running it through your agenda once. You can send data between SMART programs, "cut and paste" text-type data from one window to another (yes, they do windows), and import outside files in ASCII (text), DIF (VISICALC), or SYLK (MULTIPLAN) format.

The SMART DATA MANAGER has goodies I never thought I'd see in one package. It handles dates intelligently. You enter dates in the normal format — 10/31/84 — and it sorts and selects them correctly. It handles names helpfully. You enter "John Peterson" and it sorts on the last name. You can even get it to ignore such name addenda as "Jr.," "Esq.," or "III." It knows what a Social Security Number is, and a phone number, and makes sure you enter them properly. You can tell it to generate calculated fields on the records. You can even define a field as sequential count, and it will plug in the next new number — very helpful for something like, say, order numbers. And you can include text fields of up to 1000 characters (almost a screen's worth) in the records.

Generally, database programs favor either text information or math. This is the first database which can ambidextrously handle both. As if that were not enough, THE SMART DATA MANAGER is unusually relational. You can have multiple file interaction within a file, between files, and in the creation of new files. With their LOOKUP

CLIFFORD FIGALLO



At the *Whole Earth Review* software library, we use the SMART DATA MANAGER's windows to look up information from two separate files at once. Here, the top window shows our list of software packages in alphabetical order. We looked up the game CROSSFIRE, found out that it was produced by Sierra Online, and used the bottom window to look up Sierra Online's address from our list of vendor addresses. All that's left is to print out a boilerplate letter to Larry Weisenborn, to send with a clipping of our review of the program (*WESC* p. 36) . . .

function you can enter existing data from one file into another file, such as the current price for a product. Another wonderful capability is transaction posting. Periodically, you can post figures from one file to another, and print an Audit Trail too, if you wish. Finally, the whole thing is under the protection of password security which can restrict undesirable access to entire files or just sensitive fields.

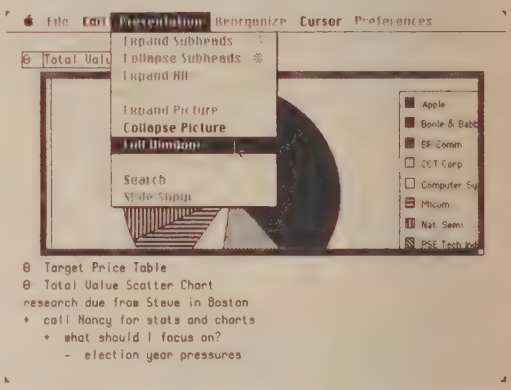
CLIFFORD FIGALLO: *After a year of working with R:BASE 4000 (**WESC** p. 87), the most streamlined of the higher-priced micro database managers, I can really appreciate such SMART DATA MANAGER features as: built-in keyboard macro capability; read-only fields/must-enter fields; mouse support; formatting shortcuts (i.e. to "match" a format of an existing file); and navigational tools that allow you to tell your location within a file, to move forward and backward within the file. I haven't seen any other program with this power and convenience.*

ART KLEINER: *We're replacing RBASE with this in both our work and the **Catalog**. Coming soon, our final view of the other SMART components.*

UPDATE
Now: outlining with pictures

STEVEN LEVY: *While THINKTANK on the 128K Mac was a disappointingly abridged version of the well-known "idea processor" (**WESC** p. 92), my advance look at the 512K THINKTANK for the "Fat Mac" was a revelation. The main advantage of this outlining tool is that each heading on the outline can go on, and on, and on . . . for up to 32,000 characters (that's well over 20 pages of text). You can write those headings on a neat built-in editor, with the option of zooming so that this mini-document fills the whole screen. This editor, incidentally, is the first one I've seen on the Mac that modified the keyboard so you can move the cursor without groping for the mouse.*

You can take a MACWRITE document and make it part of the outline. Or even a MACPAINT or CHART document. Then show them off in a built-in "slide show" function that allows you to set the time each graph or billboard appears on screen. A few more programs like this and the $1000 bite to fatten a Mac doesn't seem so nasty.



On the new 512K Macintosh THINKTANK, you can bring drawings or charts into your outline.

ART KLEINER: *Tony and Robbie Fanning return next issue. Meanwhile, we got a correction from the publishers of DATAFAX (**WESC** p. 90) — a volume only holds one megabyte's worth of text, not 16. They also have a new phone number: 213/394-3664.*

ORGANIZING UPDATE ACCESS

THINKTANK (Macintosh version, $145): Living Videotext, Inc., 2432 Charleston Rd., Mountain View, CA 94043; 415/964-6300 • **DATAFAX** ($200-$300): Link Systems, 1452 2nd St., Santa Monica, CA 90401; 213/394-3664.

ACCOUNTING

DELETED SINCE JUNE 1984:

FINANCIER II — *not easy enough to use*

UPDATE
Second thoughts

ANDREA SHARP: *We recommended two small-scale accounting programs in the **Catalog** which, upon reconsideration, seem too difficult for non-accountants. The first is FINANCIER II (**WESC** p. 98), for personal and small-business accounting. I found the manual ridiculously confusing to use. I didn't like the data entry format (there was no verification of data before it was written to file). Although there is flexibility if you can overcome the manual and entry format, and you can format the printing to your own checks, it is too complex, I feel, for personal business.*

*The second, DOLLARS AND SENSE (**WESC** p. 97) is more controversial. Our **Catalog** reviewer Fred Saland said it was easy to use. Then we got this letter:*

KAREN-ANN MILLER: *In fairness to DOLLARS AND SENSE, my local computer store owner thinks it's great to run his business on. But I don't have a background in accounting, and it took me three days of work to figure it out well enough to put my budget and checkbook into it. The biggest problem is the manual; it doesn't even explain where to start putting money in. I ended up with doubled entries in asset and income accounts several times and finally restarted the program twice from a new*

disk because I couldn't find a way to make permanent deletions of some duplications. The manual claims that working through the tutorial is enough for even accounting novices — well, it left me feeling pretty stupid when I still didn't understand . . .

ANDREA SHARP: *Accounting software may be the most difficult to judge, because you have to delve deeply into it before you can even get an impression. Until we hear from other users, we're not removing DOLLARS AND SENSE from the* ***Catalog*** *yet. If you've felt burned or pleased by it, please write and tell us.*

ACCOUNTING UPDATE ACCESS

FINANCIER II ($200): Financier, Inc., 2000 West Park Dr., P.O. Box 670, Westboro, MA 01581; 617/366-0950 • **DOLLARS AND SENSE** ($100—$180): Monogram, 8295 S. La Cienega Blvd., Inglewood, CA 90301; 213/215-0529.

MANAGING

DELETED SINCE JUNE 1984:

JACK2 — *bit the dust*
THE INCREDIBLE JACK — *also vanished*
DESQ — *too complex to survive*

RECOMMENDED SINCE JUNE 1984:
SIDEKICK

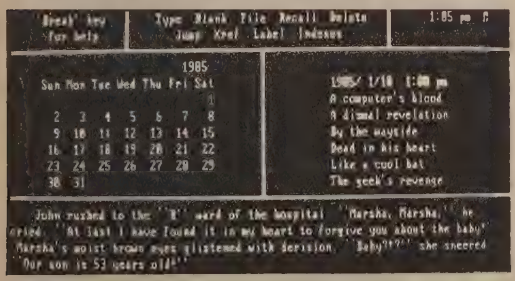
RECOMMENDED HERE:
POPUP ALARM CLOCK

UPDATE
Roadtesting the "mini-integrators"

SHARON RUFENER: *Want to clean the appointment book, notepad and calculator off your desk and transform them all into parts of your computer? Several intriguing, inexpensive software packages can provide these functions and others without interrupting your use of your regular software. These desk-topper packages sit dormant in your computer's memory, popping up politely when you need to stop what you're doing for a moment and use your handy electronic desktop tools. You can move data on the screen back and forth between your application program and your popped-up function.*

ART KLEINER: *Under Sharon's direction, we compared a half dozen of these products, including two (SIDEKICK and DESK ORGANIZER) already recommended in the* ***Software Catalog*** *(pages 197 and 114 respectively). The losers: GET ORGANIZED! by Electronic Arts ("you can't use it in between running other programs," said Sharon), SPOTLIGHT from Software Arts ("annoying copy-protection, keeps only one task onscreen at a time, and needs too much diskette juggling") and POPUPS from Bellsoft, in which each popup function is sold separately (for $220, Woody Liswood noted, you get little more than what SIDEKICK offers for $50). POPUPS does have a nice alarm clock feature they sell alone for $5.*

ART KLEINER



Would-be novelists can keep sections of chapters in DESK ORGANIZER, index them under separate labels and chapter headings, and use the calendar to schedule appointments with their agent. Best of all, when you press the M key DESK ORGANIZER disappears behind any other software on your computer, so your boss need never know you're writing fiction on company time.

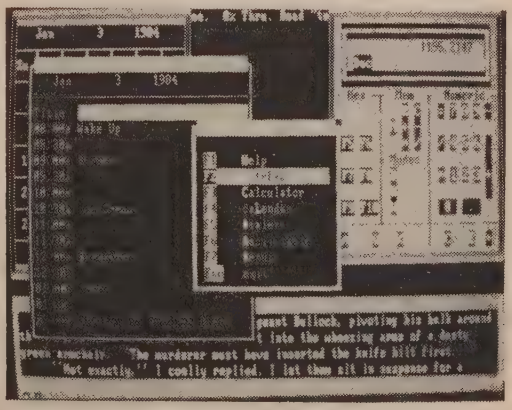
The clear winner: SIDEKICK, which we recommend enthusiastically. Runner up, for people needing to organize lots of little text files: DESK ORGANIZER.

WOODY LISWOOD: *SIDEKICK on a hard disk is great — I use it all the time (at least the calculator). I don't use it on my floppy-disk-based machine; it takes too much disk space to put on my regular program disks and the pain of a two disk booting process just doesn't seem worth it. DESK ORGANIZER is much larger and more complex than SIDEKICK, but what a pain to use. You must have two disk drives for it to work, and it will not run on a hard disk.*

CHRISTINE VAN VALKENBURG: *When I first got DESK ORGANIZER I was excited until I tried to use it in the background with WORDSTAR and it seemed too slow and cumbersome to continue. SIDEKICK is faster and truly does remain in the background, whereas any time you want DESK ORGANIZER back you are prompted to use the program disk.*

DAVE SMITH: *Now that I've used DESK ORGANIZER on a daily basis for months to organize what I once jotted down haphazardly on yellow pads, dirty napkins, and outdated maps, it has become like an old friend, waiting faithfully at my desk to assist me whenever called upon. Disappointingly, it does not nag me to keep it updated. If I neglect it for a while, it gets stale and useless, just like my messy desk used to. But if I keep on top of it, it responds admirably.*

DESK ORGANIZER works best if it's the program most used during your work day, and if you use it extensively to organize multitudinous notes, phone numbers, records, and appointments. Even then, if you want your To Do pad sitting there in the background for access or notes



ART KLEINER

You can bring up several of SIDEKICK's little windows on the screen at one time, with your main program (in this case, PC-WRITE) behind them. On this screen, clockwise from upper right, are SIDEKICK's calculator, notepad, calendar (with daily schedule showing), and (in the center) menu. Though you can only work with one window at a time, it's simple and quick to shift between them.

immediately when a call comes in, it sometimes takes an annoyingly long time. With SIDEKICK it's there in a flash. If you use your computer with other software most of the time, SIDEKICK is the way to go.

SHARON RUFENER: *SIDEKICK's notepad uses a mini-version of WORDSTAR. This is fine if you are a WORDSTAR veteran, but if you are not, SIDEKICK's once-over documentation is not the place to begin. It is not practical for numerous small individual notes. DESK ORGANIZER is. DESK ORGANIZER's filing scheme stashes notes alphabetically by name or descriptor-phrase under an appropriate index. You can have numerous indexes, with 100 to 200 notes per index, and you can have a cross-referenced entry in another index to the same note. I used DESK ORGANIZER to keep track of software products and to maintain lists of contributors to the* ***Whole Earth Software Catalog.*** *I wish the current version had been available then — it would have made form letters a snap.*

JAMES STOCKFORD: *I asked people to suggest Great Utilities (see page 91 of this issue) and SIDEKICK was mentioned more than any other program.*

MANAGING ACCESS

SIDEKICK ($55; $80 for non-copy-protected version): Borland International, 4113 Scotts Valley Dr., Scotts Valley, CA 95066; 408/438-8400. • **DESK ORGANIZER** ($298): Warner Software, Inc., Dept. 2, 666 5th Ave., New York, NY 10103; 800/223-0880. **POP-UP ALARM CLOCK** ($5): Bellesoft, Inc., 2820 Northup Way, Bellevue, WA 98004; 206/828-7282.

DRAWING

RECOMMENDED SINCE JUNE 1984:
MACDRAW — *tools for the draftsman*
PICTURE IT/VIDEO SHOW — *$100,000 worth of graphic resolution*
THE DIGITAL PAINTBRUSH SYSTEM — *Long-distance graphic collaboration*
QUICK-DRAFT — *Boilerplate schematics and flow-charts*

DELETED SINCE JUNE 1984:
4-POINT GRAPHICS — *replaced by MACPAINT clones*

RECOMMENDED HERE:
PC PAINT
BLAZING PADDLES
DAZZLEDRAW
PC PAINTBRUSH

NOT RECOMMENDED:
PC PALETTE
DR. HALO

MACPAINT and its clones

DONNA COHEN: *What is a personal paint program? A collection of tools simulating an artist's studio — airbrush, paint brush, pen, scissors, and glue. Why use a paint program instead of drawing freehand? Because it's fun, because you can correct errors easily and quickly, because you can incorporate geometric shapes easily, and because it uses a different part of the brain — the logical, analytical part — in the process of making a drawing. Personal paint programs aren't usually practical tools for making commercial drawings — although designers use them for storyboards, roughs, and layouts. I see them more as educational tools — for learning about shapes, for practicing computer art before moving up to something like LUMENA (***WESC*** p. 132), and for learning about color. Changing color is so easy on a paint program that you can cycle through a whole range of moods and feelings.*

*Since the popularity of MACPAINT (***WESC*** p. 127), the irresistible black-and-white paint program that sold the Macintosh to many people, a number of other good personal paint programs have appeared. My assignment this issue was to compare them. I am shocked at how many products like PC PAINT, PC PAINTBRUSH, and PC PALETTE mimic MACPAINT's style, its pull-down menus, its icons, and even its name. MACPAINT was a groundbreaking program, but it has drawbacks of its own. The icon menus that represent every choice — freehand draw filled versus freehand draw outline, for instance — could be more simply organized. And, of course, MACPAINT has no color.*

We only recommend MACPAINT clones that improve somehow on the original. They all use input devices — mouse, joystick, tablet, or Koala Pad — because a keyboard is not artist-friendly. They all show a main menu that represents their basic graphic choices: pen/brush size; color, texture or pattern; shape selection; solid or filled shapes; straight lines or freehand drawing. Most of the other graphic choices and special features are stored in pull-down menus, which keeps the main image area uncluttered with words. They all have an UNDO *command which erases your previous move — a classic feature.*

One element I find sorely lacking in most paint programs is utilities — routines for formatting a disk or showing an inventory of its contents. I regret the lack of subtle colors (like earth tones) in most of these programs. Also, the main menus of these programs usually take up too much space on the screen.

These paint programs all create coarser images than MACPAINT, because they work on computers with fewer pixels per inch. (Pixels are the smallest graphic elements on the screen, little dots which are to pictures what atoms are to molecules.) The more pixels, the finer your image resolution and the smoother your painting. Compared to

Five programs, five ellipses, printed on common, cheap dot-matrix printers: an Epson FX100 (the top three) and an Apple thermal printer (the bottom two).

ROBERT MORGAN, ART KLEINER

the Mac's 512 x 342 pixels, a vanilla Apple II has 280 x 192, and an IBM PC has 640 x 200. (Keep in mind that a color image requires four times as many pixels as black and white.) You can enhance your computer's resolution with graphics boards, but make sure that they work with the paint program you have in mind.

KATHLEEN O'NEILL: *These color paint programs, especially PC PAINT, are so much more versatile and easy to handle than 4-POINT GRAPHICS (**WESC** p. 131) that we no longer recommend 4-POINT.*

ROBERT MORGAN *(Cartoonist and IBM PC software evaluator): Don't run out and sell your Macintosh yet. MACPAINT has some features that are missing from all the "clones." None of them allow you to change the size or shape of the image onscreen based on the size of the edit window. MACPAINT does, which allows you to distort images or correct proportions by resizing or reshaping instead of redrawing.*

The clones also lack mirroring, a lasso to capture odd-shaped objects and move or copy them, a full eight-by-ten-inch worksheet, icons that continue functioning during FAT BITS mode, or a closely related word processing program like MACWRITE that allows you to paste pictures in with the text. Although I like the clones, they seem crude by comparison, without MACPAINT's well-thought-out feel, its polish or its power.

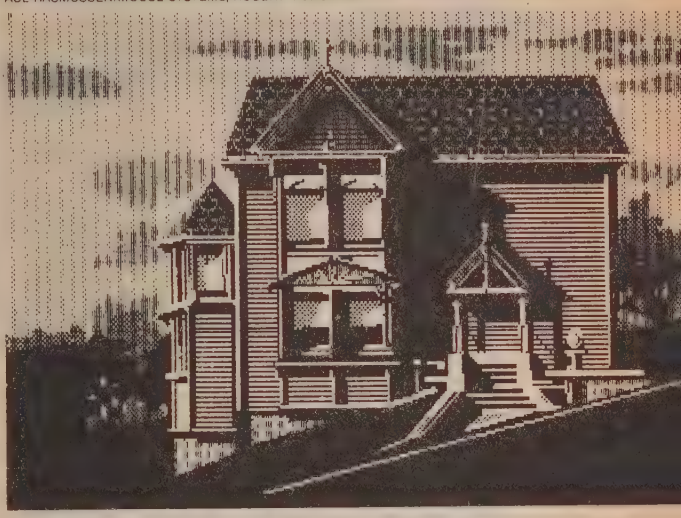
Best colors on the PC . . .
PC PAINT

Version 1.00A (for Mouse Systems mouse; not copy-protected), 1.00B (copy-protected). $100. IBM PC/compatibles. Mouse Systems Corp., 2336H Walsh Ave., Santa Clara, CA 95051; 408/988-0211.

DONNA COHEN: *This software is the closest to a MACPAINT clone. The two major differences are color and a zoom feature. Using the Mouse Systems three-button mouse, you press the middle button anywhere on your image and you immediately zoom in for detail work. The most impressive feature is the color selection. You have a choice of 16 different background colors which can go with any one of six sets of drawing colors. However, these colors are what you'd expect from a computer — bright vibrant primary colors. No subtle browns. Although I like all the features of this package I don't find it as easy to use as the other MACPAINT clones.*

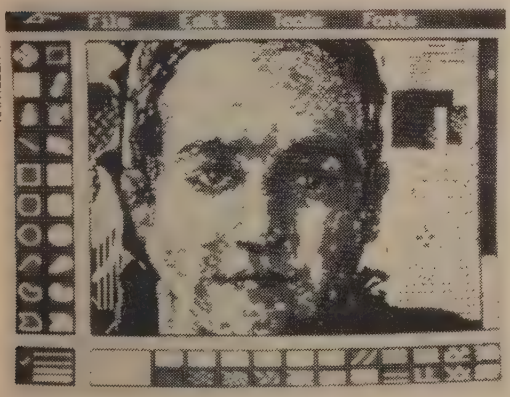
KATHLEEN O'NEILL: *I found this to be the quickest IBM PC graphics program to learn, and the easiest to do freehand designs on. Besides the increased choice of colors, you can also choose which two colors make up each pattern, to give the illusion of even more colors.*

PAUL RASMUSSEN/MOUSE SYSTEMS, ROBERT MORGAN



A comparison test for printing graphics. This house is a sample picture that comes with PC PAINT. Robert Morgan printed it with PC PAINT on an Epson FX100 printer (top). Then he captured it into PC PAINTBRUSH with the FRIEZE subprogram, and printed on the same printer (bottom).

KATHLEEN O'NEILL



PC PAINT's menu is the closest to MACPAINT's, mimicking even the pulldown choices at the top of the screen. Kathleen O'Neill created this face in blues and fleshtones. The background behind the face incorporates some of the patterns offered in the pattern menu at the bottom of the screen.

ROBERT MORGAN: *This package looked great on the surface . . . great documentation, best sample pictures, and easiest to use. But it lacks some key features, such as a paint bucket and transparent cut-and-paste. Overall it's the fastest MACPAINT clone, especially when you save or retrieve images from the disk.*

If you like a grid . . .
PC PAINTBRUSH

ZSoft. Version 2.0. $140. IBM PC family/compatibles (192K), PC|r (256K). Requires color board and mouse or joystick. IMSI, 633 Fifth Ave., San Rafael, CA 94901; 415/454-7101.

DONNA COHEN: *While other paint programs cram every little icon they possibly can into their main menu, I appreciate PC PAINTBRUSH for its simplicity. IMSI has condensed your choices into a concise main menu. A subprogram in this package is the FRIEZE program, allowing you to take pictures from LOTUS 1-2-3, SUPERCALC, and others, and enhance them. I also found the*

grid feature of this software to be helpful. Some programs offer grids more for visual effect than as a working tool, but here the function keys of your PC make the grid active, pulling the cursor toward your grid lines and enabling you to line things up easily, draw straight lines, or center a circle.

KATHLEEN O'NEILL: *Although similar to PC PAINT, I found this program less convenient to use and the colors and patterns less interesting.*

ROBERT MORGAN: *PC PAINTBRUSH has its faults. When I saved a picture, it overwrote another file with the same name, without warning me or creating a backup . . . ouch! Neither did it let me look at the directory to see what names existed. It also uses four x's to locate and size the oval. They're difficult to maneuver, and their blinking drove me batty. But all the essential features are here: transparent as well as opaque cut-and-paste. A good selection of fonts, styles, and sizes. Support for a whole host of color/graphics boards, and 14 different brands of printers (PC PAINT supports only three directly). And the powerful utility FRIEZE, which lets you print (normal and sideways) what's on the screen or save it to disk. It lets you define the size of the snapshot window. Best of all, I can change the size or shape of the picture when I print it by changing the height or width parameters. Even if I didn't like BRUSH itself, I might buy it just to have FRIEZE around.*

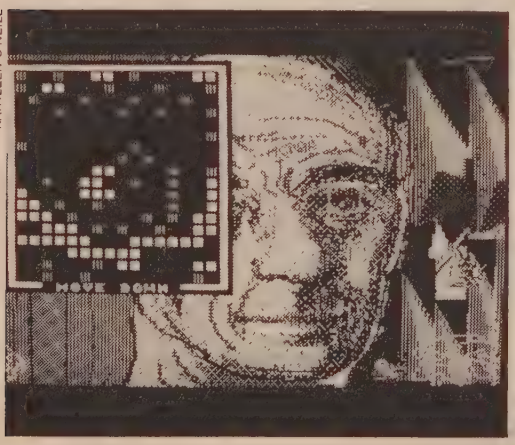
For the young and timid . . .
BLAZING PADDLES

Michael Darooge. Copy-protected. $35-$50. Apple II family; Commodore 64. Baudville, 1001 Medical Park Dr. SE, Grand Rapids, MI 49506; 616/957-3036.

DONNA COHEN: *An affordable program with an obnoxious name. This program uses the crude Apple II colors — black, orange, purple, blue, and white. Everything is self-explanatory — brush selection, color choices, and the zoom-in-for-detail feature. There's a symbol library of corny shapes — piano, barn, woman, man — which you can color, rotate, and add to your existing drawing. One real plus is the package's built-in utility features. Since it's easy to use and limited, this is the best personal paint program for young children.*

KATHLEEN O'NEILL: *I was disappointed that I couldn't easily create my own symbol library; it would have made this program lots more fun.*

KATHLEEN O'NEILL

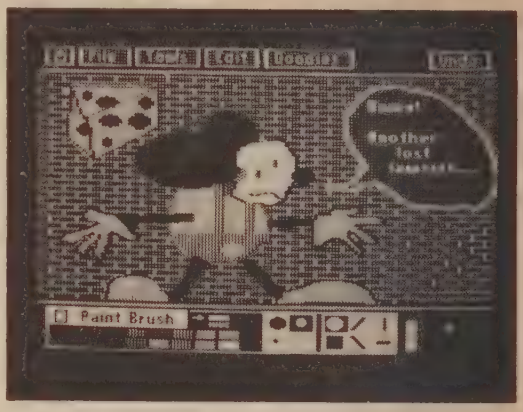


Kathleen O'Neill used the "FAT BITS" feature in BLAZING PADDLES while drawing this face. The window enlarges a section of the picture (shown here: his left eye), and lets you change the color of any single dot.

You can draw brown . . .
DAZZLEDRAW

Copy-protected. $60. Apple IIe (128K), IIc. Requires mouse or joystick. Broderbund Software, 17 Paul Dr., San Rafael, CA 94903; 415/479-1170.

DONNA COHEN: *One element I especially enjoy in DAZZLEDRAW is the quality of color. You can have soft, uncomputerish tones like pink, olive green, and some nice earth colors. The menu is structured slightly differently than other paint programs. After choosing a particular graphic feature from the first menu, a submenu appears at the bottom of the screen. This gives you more working picture area, doesn't limit you to what the designer could fit in the main menu, and offers more in-depth choices for each particular function. The wonderful color choices and slightly different menu approach make this my personal favorite.*



ART KLEINER, CLIFFORD FIGALLO

On the Apple II, DAZZLEDRAW offers blazing colors and easy feel for cartooning. When you select an option from the pull-down menus at the top of the screen, a sub-menu of more choices appears at the bottom.

Not recommended . . .
PC PALETTE • DR. HALO

ROBERT MORGAN: *These two MACPAINT clones both have good features that none of the others have (including MACPAINT), and therefore they're interesting and worth watching as they develop further; but they also have glaring problems.*

DR. HALO (Media Cybernetics) has infinitely variable fonts, the best "spraycan," and a feature that lets you move geometric figures around the screen or replicate them even after you size and shape them. You can remove the menu from the screen and still draw. However, it has no UNDO, it tediously redraws the menu after you do certain functions, and my copy could not reload images that I had created earlier with it — a disastrous bug.

PC PALETTE (IBM/Personally Developed Software) can rotate objects at an infinite number of angles, allows you to plot graphs from business data files, has a concise menu at the bottom of the screen, and is by far the cheapest MACPAINT clone ($40). However, it has no FAT BITS, it's about five times slower than any of the others when you load or save images, it slowly redraws your picture from scratch each time you use some of the features, it has no brush shapes, and it's generally clumsy and crude. I guess you get what you pay for.

Col. Dave Hughes, U.S. Army retired, inset in an 8K memory chip.

DON BYAN/ MATT HERRON

THE NEIGHBORHOOD ROM

COMPUTER-AIDED LOCAL POLITICS

by Dave Hughes

You can contact visionary Dave Hughes, a retired West Point teacher, using his pioneer computer network bulletin board (303/623-2391), if you can log on — it's busy 20 hours a day. I used a plain-vanilla telephone interview: Hughes speaking all the way. —*Kevin Kelly*

About two years ago the city planners of Colorado Springs decided that they were going to tighten the city ordinance that regulates working out of your home. I saw in the newspaper a small legal announcement that this was coming up before the planning commission, so I went down on behalf of the whole community of 12,000 people and 200 small businesses living around old Colorado City. It was clear that if the city enforced the ordinance rigorously it would make home-based entrepreneurial activities suffer. I was the only person in that city of 300,000 who actually stood up and testified against that ordinance. They could have just ignored me and rolled over me with a tank. But I did not argue backyard repair of cars; I argued high tech. As a consequence the planning commission tabled the matter for 30 days.

I brought the text of the three-page ordinance home with me and typed it into my computer bulletin board. I drew attention to it with a notice on the menu. I had already built up a little reputation among those who dial my bulletin board as a serious place for discussing public and political problems, so I put it up on the board saying I didn't like the actual text of the law.

I began to collect on the bulletin board other implications of the law that I had never thought of. For instance, though I don't have anything to do with direct sales, somebody pointed out that the text would have prohibited Amway products, Shaklee products, and all those kinds of businesses, which are a very great growth part of our economy.

Well, if you have the time and bucks, you can buy an ad and form a big organization, hold a press conference and mobilize public opinion. What I did was, I sent a letter to the editor of the two local newspapers and simply said that I didn't like the ordinance and anybody that has a computer or terminal can dial 623-2391 and read the ordinance for himself. I got a response of over 250 callers into the board in the next 10 days, over and above the normal number of callers.

What I didn't anticipate was that some of the callers were high-tech people who worked in larger plants — specifically Digital, Rolm Corporation, and Walter Drake (a mail-order house here). They not only read the ordinance individually but flipped it on the printer, printed it, xeroxed it, circulated it through the plant and the next thing I knew thousands of copies of this ordinance were being circulated throughout the city although I never went to any meetings and never xeroxed nothin'. Some of them went to the press and to the council and started taking their own individual action and I never had to. The next thing I knew, the TV and everybody else got in on it. They also began to put the heat on the city planners.

In the end the city council never knew what hit them. At the next meeting 175 people showed up. I didn't represent anybody but myself. People came in and wondered angrily why the mayor was letting the planning commision prevent people from making income from out of their homes. There was at least one person who captured the text on his computer, rewrote the thing and uploaded it again — revised it. Well, that's a piece of cake with a word processor program. Normally nobody puts out that kind of energy no matter how concerned because the effort to get involved with local politics, the effort to do your civic duty, the effort to mobilize public opinion takes a great deal of energy. But suddenly the economy of effort that computers gives makes it possible for people to electronically mobilize opinion. We eventually only came together in time and space at the actual hearing.

We sent the ordinance back to the planners four times and each time I put it back on the board until it was totally resolved. It actually became an issue during the city campaigns for mayor, but by the time of the elections it was an acceptable ordinance — the steam had run out of it. Finally, on its own momentum it came in front the city council for approval and not one person stood up on behalf of or against it and the mayor shot off his mouth and wondered where all those people were that were angry. So I wrote an open letter to the editors of the newspapers. I said, "Well, look Mr. Mayor, it's now an acceptable ordinance. But the more important point is that the public hearing was held in the ROM of a neighborhood computer and where the heck were you?" ■

DELETED SINCE JUNE 1984:
HAYES SMARTCOM II — *too slow and difficult*
ASCII EXPRESS "THE PROFESSIONAL" — *too difficult, period*
TRANSEND PC — *now replaced by* COMPLETE

RECOMMENDED SINCE JUNE 1984:
PFS:ACCESS — *none easier to use*
APPLE ACCESS II — *best for Apple II computers*
PERSON-TO-PERSON — *comprehensible, with rolodex*
MACTEP — *hook up to your Mac for free*
COMMANDER ULTRA TERMINAL — *cheapest Commodore cartridge modem*
TEL-LETR — *Model 100 electronic mail service*
BLACK JACK — *make any phone anywhere a modem phone*
212 LP MODEM — *portable with no power plug*
DISK+ — *connects Model 100 to other computers*
C64 TERM — *Commodore version of* VIDTEX

RECOMMENDED HERE:
PC TO MAC AND BACK!
TRANSEND PC COMPLETE
MITE +
CONEXUS

Like a white flag between battling armies . . . PC TO MAC AND BACK!

$150. IBM PC/compatibles; Macintosh. Dilithium Press, P.O. Box 606, Beaverton, OR 97075; 503/646-2713.

ART KLEINER: *Conspicuous computerists keep two machines in their offices these days — an IBM PC for work and a Macintosh for creativity. This arrangement is frustrating because the two machines don't fit together well (thanks partly to the notorious enmity between their parent companies). Suppose you wanted to print out your WORDSTAR-composed letter with MACWRITE's fancy typefaces, or to edit a Mac-composed document on your PC, or to exchange spreadsheets between MULTIPLANs on the two machines — the necessary file transfer programs, cables, and conversion utilities would take a couple of days to find, assemble and (tediously) install. Now all the parts — including the cable — come in one box called PC TO MAC AND BACK! and you can get them working in about an hour and a half.*

PC TO MAC AND BACK! consists of one disk each for PC and Macintosh, plus a stodgy, obfuscatory manual. It works better from the PC to the Mac, because it includes extra commands to unravel WORDSTAR's eccentricities. (MACWRITE removes only some of its eccentricities when you save your files as "text only.") PC TO MAC AND BACK! shunts data through its cable at a speedy 9600 baud (eight times as fast as most personal computer modems) and it will connect you inelegantly to a modem as well (you'd better be comfortable using the modem's own techie-talk commands). Like many first-of-their-kind software offerings, this is adequate — indeed necessary — for now, but much too graceless; if they keep improving it (and add a utility for converting PC PAINT files to MACPAINT and back), it'll grow into an ever-more-valuable tool.

DON RYAN

Two incompatibles — Apple Macintosh and IBM Personal Computer — made compatible by PC TO MAC AND BACK! Included in the package is the software you see on both screens and the cable shown between the computers. We've just successfully transmitted a file of text from the IBM to the Mac.

UPDATE

A vastly improved TRANSEND PC

ART KLEINER: *Problem: the people you want to communicate with live on dozens of different computer networks. Keeping track of the bewildering mass of necessary passwords, connection schemes, and addresses is beyond any human, but most terminal programs make you attempt that work yourself. On* **Software Catalog** *page 154 we recommend message-sending TRANSEND PC as an antidote, but with reservations. It lets you write and send messages on only a limited group of networks — The Source, OnTyme, and other computers running TRANSEND PC itself. You could reach other systems with separate, overly clumsy commands. And TRANSEND PC was incompatible with just about every other program.*

Now most of those problems have been fixed in the new version, TRANSEND PC COMPLETE. The screen still looks the same — a stylized desktop with boxes labelled "IN," "OUT," "ADDRESS BOOK," et cetera — but the electronic mail feature now reaches MCI Mail and Quikcom, the two most popular electronic mail services in the country. The facility for dialing non-electronic-mail networks is more versatile and responsive; to set up an automatic sequence you enter a remote network (like, say, CompuServe) as you normally would, and watch TRANSEND translate your actions into its own command language in a little window on the screen. The program now also lets you swap files with XMODEM, the most common error-checking protocol. And it's no longer copy-protected. You can run it easily from a hard disk.

Now many more people will be able to use this inspiring program, which I believe will dramatically influence personal computer telecommunications. Unlike every other terminal program, it's not about navigating your way through the morass of telecommunications; instead, it's about sending and receiving mail.

*The best of the morass-navigators, a terminal program called MITE (***WESC** *p. 150), has a new terminal emulation add-on called MITE+. Terminal emulation is strictly for corporate and university types who use mainframe computers; it allows your humble micro to use graphic or screen commands unique to a particular mainframe. Unfortunately, there is an infuriating variety of incompatible mainframes. Most programs that have terminal emulation offer three or four flavors — MITE+ offers 94. We can't test MITE+ here (we don't have mainframe access ourselves), but we appreciate any reports from readers.*

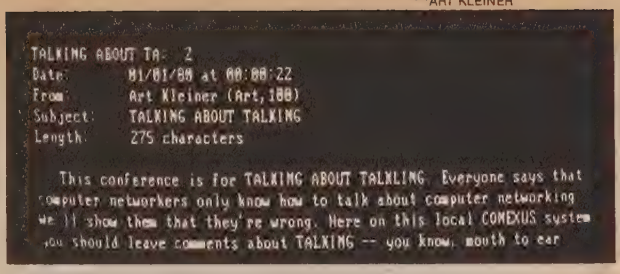
MITE, incidentally, now comes bundled with Kaypro computers, Novation modems, and FRAMEWORK. If only it used the function keys on the IBM PC, it'd be near-perfect . . .

Bulletin board software may do more to create community than any other type of computer software. These programs let you set up your own computer with message systems and conferences, which other people can dial into through

the telephone. In the **Software Catalog** we reviewed MIST (p. 149), which is an all-purpose, complex, adaptable telecommunications package; we said it was good for building your own communications structures, like bulletin boards. But it took a lot of work to do so.

Now the MIST people have released CONEXUS, which does the work for you. CONEXUS is a wonderful bulletin board. You can send messages to other people, participate in joint conferences, and establish bulletin boards. The "sysop" (short for system operator, which means you) issues passwords to all the members, which means you can charge people who participate, or tell them all the password as they sign on. CONEXUS can keep track of where each member is in a particular online discussion, and it lets people enter comments anonymously or under pen names (a boon if you want your correspondents to be honest). It's somewhat similar to the sophisticated conferencing system EIES (**WESC** p. 147). It's expensive, but it's very easy to use and install (a rarity for bulletin board programs) and it creates a wonderful network. If you've ever wanted to run a university or series of salons, a CONEXUS system would serve better than COMMUNITREE (**WESC** p. 148) on a PC-compatible with a hard disk.

ART KLEINER



A sample comment in a CONEXUS conference, running on a Compaq computer. CONEXUS keeps track of every member's position in every conference, and the date on which every comment is entered. You can read old conference comments, add new comments, and change comments that you've already entered.

TELECOMMUNICATING UPDATE ACCESS

TRANSEND PC COMPLETE ($230): Transend Corp., 2190 Paragon Dr., San Jose, CA 95131; 408/946-7400 • **MITE+** ($175—$220): Mycroft Labs, P.O. Box 6045, Tallahassee, FL 32314; 904/385-1141 • **CONEXUS** ($625): New Era Technologies, 1252 Columbia Rd., NW, Washington, DC 20009; 202/887-5440.

PROGRAMMING

RECOMMENDED SINCE JUNE 1984:
DESK ACCESSORY MOVER — *freeware utility for the Mac*
FDUMP — *simple file-dump utility*

RECOMMENDED HERE:
ULTRA COPY
CATALOG MANAGEMENT
DISK UTILITIES
WASH
SD20
DOS FILETRACKER
DIREC-TREE
DM II
DIVERSI-DOS
SWEEP
1DIR
WEDGE
THE CIA
EXTENDED BATCH LANGUAGE
BAKUP
PROOF READER PROGRAM
T-BACKUP
ROM2
PC/SIG Library
International Apple Core
Apple Avocation Alliance
Public Domain Software Copying Company
Micro Cornucopia
AWIIe Toolkit
The Alternate Source
The Free Software Handbook
How to Write a Computer Manual
Illustrating BASIC
Illustrating FORTRAN

No glamour, but they're essential . . . The Great Utilities

JAMES STOCKFORD: *Utilities are handy little programs that help us run our computer better so that it can run our work better.*

For instance: they help organize our disk files, bail us out of trouble when disks fail, speed up other programs, resurrect killed files, and in general let us maneuver the way we had expected to before we bought the damn computer in the first place. On most computers, utilities relieve the built-in clumsiness of the operating system — the overall set of programs that takes care of the machine's housekeeping such as operating disk drives and shunting files around. Utilities are as useful, diverse, and as generally overlooked as kitchen utensils. Until some time far in the future when systems run smoothly without them, even beginners are better off learning to find and use these helping tools. Hence this survey of the best. May all your utilities be great.

COPY PROGRAMS

JAMES STOCKFORD: *Copying utilities come in two colors, black and white. The white ones offer extra power for copying files and programs from one disk to another. The black ones offer software pirates the tools to defeat copy-protection schemes.*

We heartily disapprove of copy-protection. Such schemes cripple our ability to use hard disks, set us up for awful delays if our program disks fail for any reason, and are mean-spirited and chickenshit. Yet we do not endorse piracy, for that does not meet the problem head-on — the pirate is a rip-off artist who feeds the cycle of copy-protection.

COPY II PLUS (Apple II), COPY II PC (MS-DOS), ULTRA COPY (Commodore)

JAMES STOCKFORD: *The copy programs we recommend offer niceties beyond simply copying files from one disk to another. They let you copy several files at a time, bypass such hurdles as locked files, and streamline their overall structure so you can do a lot of work without switching between a utility function and the operating system for each move.*

*We have already recommended COPY II PLUS for the Apple II and COPY II PC for the IBM PC and MS-DOS machines (**WESC** p. 173).*

For CP/M and TRS-DOS use POWER or SWEEP.

Commodore 64 users should try ULTRA COPY. It's fast, copies the contents of the entire disk using one drive or two, and analyzes disk errors.

DIRECTORY ENHANCERS

JAMES STOCKFORD: *Nothing is more clumsy to keep track of than a set of files on a disk. If you lose a file, you can spend hours shuffling through disks on your computer to locate it. Directory enhancers help group your files by subject, by alphabet rank, or by size; they make it easy to scan the file names on all your disks.*

CATALOG MANAGEMENT, DISK UTILITIES (Apple II)

ALFRED GLOSSBRENNER: *On the Apple II, CATALOG MANAGEMENT helps prepare a short description of every item on a given disk, up to a maximum of 70 items. This makes it easy for an inexperienced person to find programs and run them without knowing much about the machine. Once you've prepared your descriptions, simply rename the program 'HELLO' and it will produce its list automatically each time the disk is booted.*

DISK UTILITIES has programs to print catalogs of individual disks, sort filenames, rapid-copy files, and generally keep track of your Apple disks. One program on here automatically creates and prints disk labels.

WASH, W20 (CP/M, MS-DOS)

ALFRED GLOSSBRENNER: *WASH (called W20 for DOS 2.0 and 2.1) is close to the ultimate disk file management utility. The program presents you with each filename on a disk, one at a time. You have the option of deleting it, copying it to another disk, displaying it on your screen, sending it to a modem or other device, renaming it, or printing it out on your printer.*

SD20 (MS-DOS)

ALFRED GLOSSBRENNER: *Load SD20 as a file on a disk. It will display files on that disk sorted alphabetically by filename, by file extension, by file size, or by date and time of creation.*

DOS FILETRACKER (MS-DOS)

MATTHEW McCLURE: *DOS FILETRACKER catalogs your diskettes and hard disk so you can find your forgotten files. It prints diskette labels and sleeve inserts that show you the disk i.d., space remaining on the disk, names of the files, security classification, and any special comments. It sorts on any of those items and extracts subsets. It also provides a comment line for each file, so you have a 25-character hint of the file's contents.*

DIREC-TREE

CHARLES SPEZZANO: *This gives you a tree-like graphic representation of your directory structure on the screen. You point at a file with the cursor and then you can press a function key, rename it, delete it, view it, run it, or copy/move it. You can even mark several different files in one directory and quickly move them to another directory without having to type in a long string of directory names. It is visual and fast.*

OPERATING SYSTEM ENHANCERS

JAMES STOCKFORD: *The operating system's commands themselves have become targets for improvers. DOS enhancement systems vary wildly one from another, but have the general purpose of hot-rodding your ability to read disk filenames, copy files, format disks, and sometimes speed up the internal process your computer uses to do its work. They overlap with but do not completely contain the functions of copy programs and directory enhancers.*

DM II (Apple II)

ALFRED GLOSSBRENNER: *DM II (DOS MODIFIER) is a menu-driven utility with which you can change virtually any Apple operating system command to one of your own liking. For example, you might change the command* CATALOG *to* DIR *(for Directory) or* CAT. *You can reduce keystrokes by changing* RUN *to* R, LOAD *to* L, *and so on. You can also alter the text displayed by the 14 error messages. If you're tired of seeing the rather curt, uninformative "Language Not Available" message when you try to run a program, change it to read, "Please load INTEGER BASIC."*

DIVERSI-DOS (Apple II)

GARY MACPHERSON MUGFORD: *One of the foundations of Steve Wozniak's reputation as a computer wizard was the Apple Disk Operating System (DOS) which, according to legend, he cobbled together during a New Year's break in the mid-1970s. Marvelously ahead of its time, Apple DOS has been released in successively improved versions, the last of which, DOS 3.3, was as good as any on the market four years ago. But four years in computer terms often means obsolesence.*

A number of DOS enhancers have since appeared to improve DOS 3.3. DIVERSI-DOS is the best known; others include DAVID-DOS and PRONTO-DOS. I investigated all three, chose DIVERSI-DOS, and have never regretted the decision.

DIVERSI-DOS cuts disk access time by half, sometimes more. Programs and high-resolution screen graphics load much faster. It can be used in a RAM card to allow more space in main memory, and it can use a RAM card as a print buffer (so you can use your computer while the printer works).

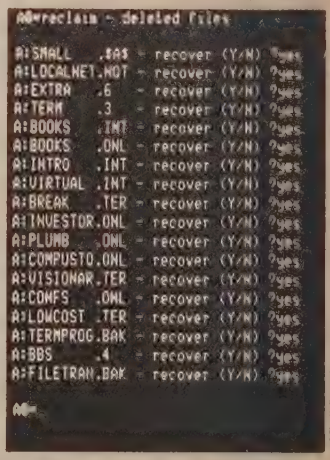
1DIR (MS-DOS)

WOODY LISWOOD: *1DIR (pronounced "wonder") is a disk manager, a custom menu generator and operator, a DOS shell, and a general information and utility program. It makes reading and finding the files on a hard disk much easier. Its one hang-up is occasional loading problems when it works with other programs, like SIDEKICK and WORDSTAR. With some research, you can set up the program to avoid these conflicts.*

1DIR shows the statistics for each disk or sub-directory — the total space devoted to the disk or sub-directory as well as the file space used so far and the remaining disk space. It also gives you the date and time, help files, current toggles, a display of various disk drives, an option to change the way you wish the display sorted, use of the function keys, and the ability to display the time and date any file was created. You can mark up to 15 files for bulk copy, back up, or erase functions. One of the best features is the ability to create custom menus allowing you to chain an unlimited number of secondary menus.

POWER!, SWEEP (MS-DOS, CP/M)

JAMES STOCKFORD: *For both MS-DOS and CP/M machines we still recommend POWER! (**WESC** p. 173) — it numbers your files and lets you copy, erase, unerase, or type bunches of files (choosing, for instance, only files 1-6, 9, and 16-23). POWER! also contains secton check-*



ART KLEINER

The disk was six months old, rattling around at the back of the disk tray. As shown here, the RECLAIM command on POWER! discovered 18 erased files still intact on that disk, and brought them back to life. When you erase a file, you don't destroy it; you simply remove its tag in the disk directory. "Unerase" programs in POWER!, NORTON UTILITIES and THE CIA recover your lost files if you make a mistake and delete the wrong ones.

ing (to diagnose disk problems), help files, file dumps, enhanced debugging features, and so on.

MATTHEW McCLURE: *SWEEP makes disk management under CP/M almost fun. It lets you scroll through the directory and copy, delete, print, compress, rename, and view files, all without remembering any PIP syntax or even file names.*

```
A)ren artfile.new=artfile.rev
A)b:stat artfile.*

 Recs  Bytes  Ext Acc
    4     1k    1 R/W A:ARTFILE.NEW
Bytes Remaining On A: 79k

A)_
```

How a great utility can make a difference in renaming files, one of the most common computer chores. Before: With the CP/M operating system command REN you must remember the old file name (ARTFILE.REV). You must place it on the right, the new file name (ARTFILE.NEW) on the left, and an equals sign between them. To see how big the file is, you must use a separate command — STAT.

```
  1. A0: ARTFILE .REV   1k : r  New name or * : ARTFILE.NEW

Renaming A0: ARTFILE .REV ====> A0: ARTFILE .NEW

  1. A0: ARTFILE .NEW   1k :
  2. A0: COMMODOR.REV   5k : _
```

ART KLEINER

After: SWEEP shows you, in order, the names of all the files on your disk, and how big they are. To rename a file, you just type R. SWEEP asks you what the new name will be, renames it, and then moves on to the next file (COMMODOR.REV).

DISK MECHANICS

JAMES STOCKFORD: *The handiest utility programs may well be disk mechanics. The less you use them the happier you are, but when you need them, you're so grateful they're there. They let you examine disks in intimate technical detail. Their greatest strength is saving deleted and crashed files. They provide adjunct abilities such as looking at file and disk structures and controlling attributes (like hiding files). There is a lot of overlap between disk mechanics and DOS enhancers, yet the differences are enough to justify the distinction.*

THE CIA (Apple II)

ALAN KALKER: *The one Apple II utility I would not be without: THE CIA, a primary tool for recovery of information from damaged diskettes, and an introduction to the sport of disk cracking. The first week I had this program, I recovered all but a few words of a ten-page report inadvertently ruined by saving a short memo with the same filename. The recovery took less than three minutes. Later I scrambled a disk with a magnet. My Apple upchucked trying to read the resulting mess. A half-hour's use of THE CIA and I had retrieved all but ten lines of a twenty-page research paper stored on the disk.*

Such wonders can be accomplished with no previous knowledge of the disk operating system, the hexadecimal number system, or assembly language. In fact, THE CIA is also, independently, a nearly painless method of getting into these arcane subjects. I had tried to learn from books and instructional programs, but my brain soon glazed over. I found it is much easier to learn while you are doing something useful than it is to learn in order to be able to do something useful.

THE NORTON UTILITIES (MS-DOS)

MATTHEW McCLURE: *For recovering erased files, hiding files from prying eyes, and manipulating files in hexadecimal. Reviewed on* ***WESC*** *p. 173.*

UNIQUE GREATS

EXTENDED BATCH LANGUAGE (MS-DOS)

JAMES STOCKFORD: *Batch files help to automate routines — they contain a list of commands that the operating system understands and executes automatically in sequence. For instance, a batch file routine to copy a session's work might format a new disk, copy newly modified files to it, then print out a list of the contents of that disk. EBL is a practical utility that helps set up these routines.*

DOUG ADAMS: *EBL creates interactive batch files that respond either to the programs it runs or to the user running it. For instance, midway through its sequence the user might be asked: Do you want to use WORDSTAR or 1-2-3?*

With EBL you can construct menus from which users select other menus. EBL provides complete control over the screen — underscoring, intensity, colors, blinking — so you can create very attractive, easy to use screens. And it speeds up the process of running batch files.

BAKUP (MS-DOS)

JIM SCARDELIS: *BAKUP backed up and verified six megabytes of data on an IBM PC/AT onto six high-capacity floppy disks in just over 18 minutes. (Normally that might take an hour or more.) It tells you which files have been changed (and thus need to be backed up), and displays them on a color monitor in bright red. It flew down my sub-directories like wildfire, stopping every now and then to call me for the next disk (it sounded like a phone ringing). It even keeps a running total of estimated and actual time and file count/sizes so you don't get bored watching the filenames go by. BAKUP keeps a catalog of what files were backed up and where they were backed up to, so you can always locate any file or version of a file by highlighting it on the screen and putting in the backup disk that it asks for.*

PROOF READER PROGRAM (Commodore)

FLOYD SOLDERS: *We low-budget Commodore 64 owners get a lot of our software by copying it out of magazines. But it's practically impossible to type in a BASIC program without making mistakes, and finding the mistakes later is horrendous.*

I found this great, short utility in ***Compute! Magazine****, copied it, and saved it to cassette tape. When I'm ready to type in any other BASIC program, I first load PROOF READER into the C-64 and move it into the cassette buffer portion of memory. Then, as I type in my new program, PROOF READER inspects the syntax. If I enter a line that is incorrect, PROOF READER immediately warns me.*

GREAT PUBLIC DOMAIN COLLECTIONS

ALFRED GLOSSBRENNER: *Over the years individual computer owners have written and contributed literally thousands of utilities to the public domain where they are freely available to anyone who wants them. Since in many cases these programs have no commercial equivalent, you probably won't be able to get them from a retailer. But fear not. They're available from local users' groups, online bulletin boards, CompuServe, and many other sources. For more information see* ***WESC*** *p. 25. Here are some specific collections worth recommending in themselves.*

PC/SIG LIBRARY (MS-DOS)

ALFRED GLOSSBRENNER: *Perhaps the most comprehensive collection of free IBM PC software. Incidentally, many early PC-DOS utilities proved so popular that the functions they perform have been added to DOS 2.0: for example, print spooling utilities to let you print a file while running another program (DOS 2.0 equivalent: PRINT.COM) and "screen dump" utilities to reproduce display screen* ►

graphics on your printer (DOS 2.0 equivalent: GRAPHICS.COM). For those who have not yet upgraded from DOS 1.1 to 2.0 or higher, these public domain utilities may eliminate the need to purchase that product.

INTERNATIONAL APPLE CORE (Apple II)

ALFRED GLOSSBRENNER: *One of the best national sources of public domain Apple software. The IAC has over 350 chapters and more than 75,000 members worldwide. The group's "Disk of the Month" library currently has more than 40 floppies.*

APPLE AVOCATION ALLIANCE (Apple IIs running CP/M)

ALFRED GLOSSBRENNER: *People who are in a position to know have told me that there are more Apple II computers running CP/M than any other single brand of computer. If your machine is one of them, you may find it somewhat difficult to get public domain CP/M software in a disk format that your Apple can read. That's why it's important to know about this group. Many of the great classic CP/M public domain utilities are available: the "super directory" SD, which lets you find a file regardless of the drive containing it; the two "squeeze" twins SQ and USQ, that compress a file to take less space on the disk; the extended directory XDIR; and UNERA for unerasing deleted CP/M files.*

PUBLIC DOMAIN SOFTWARE COPYING COMPANY, MICRO CORNUCOPIA (CP/M)

JAMES STOCKFORD: *The size of the catalog of the Public Domain Software Copying Company competes with that of the Manhattan directory. It is filled with descriptions of public domain programs. Meanwhile, in Oregon, Micro Cornucopia provides a bimonthly magazine called* ***Micro Cornucopia*** *and lots of their own utilities, mostly aimed at Kaypro users. They are quite helpful to CP/M users in general. Very expert.*

AWIIE TOOLKIT (Apple IIe)

DON LANCASTER: *The Gila Valley Apple Growers' Association maintains a free voice helpline for Applewriter IIe users at 602/428-4073. Best calling times are 8-5 weekdays, Mountain Standard Time. They also have an AWIIe toolkit package consisting of eight crammed-full diskette sides. Included are such goodies as patches for NULL, "shortline," IIc de-trashing, answers to hundreds of most-asked questions, microjustify and proportional space, camera-ready secrets, a complete and most thorough disassembly script, sourcecode capturing info, self-prompting glossary secrets, and bunches more.*

THE ALTERNATE SOURCE (TRS-80 desktop)

JAMES STOCKFORD: *A good place to find public domain material, particularly utilities. Some of the best utilities they offer are the ones they wrote themselves. They put out a thick newsletter and offer advice to the lost.*

The Free Software Handbook (CP/M)

MATTHEW McCLURE: *Weeding the CP/M garden is a daunting task. The Free Software Handbook performs admirably, with explanations and recommendations for the best in public domain — games, disk/file management, miscellaneous utilities, telecommunications, and verbal snapshots of the programmers of PeopleTalk's Top Ten. Anyone who wonders what makes a CP/M machine tick will be happy to find this book's lucid explanations. Comes with diskettes containing the recommended programs. You can get them cheaper elsewhere, but not packaged as well.* *[Suggested by Mike Guffey]*

How to Get Free Software

JAMES STOCKFORD: *If this is not enough, we refer you to Alfred Glossbrenner's wonderful book,* ***How To Get Free Software*** *(**WESC** p. 27). This book is the dependable sort of reference that soon gets dog-eared. In it are the facts of getting set up to download software through the telephone, a huge number of software sources, and tips for getting around.*

GREAT UTILITIES ACCESS

APPLE II FAMILY:

COPY II PLUS. Not copy-protected. $40. Central Point Software, Inc., 9700 S.W. Capitol Highway, #100, Portland, OR 97219; 503/244-5782 • **International Apple Core** (IAC), 908 George St., Santa Clara, CA 95054; 408/727-7652. Free catalog • **CATALOG MANAGEMENT** (IAC disk #27), **DISK UTILITIES** (IAC disk #32), and **DM II** (IAC disk #13). $10 each from International Apple Core • **DIVERSI-DOS.** Bill Basham. Version 4C. Not copy-protected. $30. Diversified Software Research, Inc., 5848 Crampton Ct., Rockford, IL 61111; 815/877-1343 (3–5 p.m. only, Central Time) • **THE CIA.** T. Tse. Not copy-protected. $65. Golden Delicious Software Ltd., 7 Sloane Ave., London SW3 3JD, England • **Apple Avocation Alliance, Inc.**, 1803 Warren Ave., Cheyenne, WY 82001; 307/632-8561. Catalog, $2 • **AWIIE TOOLKIT.** Don Lancaster. Not copy-protected. $40. Gila Valley Apple Growers' Assoc., P.O. Box 809, Thatcher, AZ 85552; 602/428-4073.

IBM PC AND COMPATIBLES:

COPY II PC. Not copy-protected. $40. Central Point Software, 9700 S.W. Capitol Highway, #100, Portland, OR 97219; 503/244-5782 • **DOS FILETRACKER.** Not copy-protected. $20. IBM/Personally Developed Software, P.O. Box 3280, Wallingford, CT 06494; 800/426-7279 • **DIREC-TREE.** Steven W. and Robert L. Kurtz. Version 2.0. Not copy-protected. $55. Micro-Z Co., Santa Bella Rd., Rolling Hills Estates, CA 90274; 213/377-1640 • **POWER!** Not copy-protected. $170. ***Computing!***, 2519 Greenwich St., San Francisco, CA 94123; 415/567-1634 • **IDIR.** Version 3.0. Not copy-protected. $95. Bourbaki, Inc., 431 Main St., Boise, ID 83702; 208/342-5849 • **NORTON UTILITIES.** Peter Norton. Version 3.0. Not copy-protected. $100. Peter Norton Computing, Inc., 2210 Wilshire Blvd., #186, Santa Monica, CA 90403; 213/399-3948. • **EXTENDED BATCH LANGUAGE.** Frank Canova. Version 2.03. Not copy-protected. $30. Seaware Corp., P.O. Box 1656, Del Ray Beach, FL 33444; 305/276-5072 • **BAKUP.** Larry Tully. Version 3.0.2. Copy-protected. $150. Hard disk with 256K required. Infotools, Inc., 10044 S. DeAnza Blvd., Cupertino, CA 95014; 800/538-8157, ext. 801, or, in CA, 800/672-3470, ext. 801 • **IBM PC Software Interest Group** (PC/SIG), 1125 Stewart Ct., Suite G, Sunnyvale, CA 94086; 408/730-9291. Catalog, $5.95 • **WASH** (PC/SIG disk #9), **W20** (PC/SIG disk #141), and **SD20** (PC/SIG disk #34). $6 per disk + $4 shipping and handling per any size order, from IBM PC Software Interest Group.

CP/M Computers:

POWER! Not copy-protected. $170. Computing!, 2519 Greenwich St., San Francisco, CA 94123; 415/567-1634 • **Micro Cornucopia** ($16/year; 6 issues): Micro Cornucopia, P.O. Box 223, Bend, OR 97709 • **Public Domain Software Copying Co.**, 33 Gold St., New York, NY 10038; 212/732-2565. Catalogs: CP/M, $5; Commodore, Apple, and IBM, $1 each • **WASH** and **SWEEP**. $10 per disk from Public Domain Software Copying Co. Be sure to indicate format. • **The Free Software Handbook**, by T. Gregory Platt, Patricia L. Hatcher, Blake H. Van Meter. 1984; 342 pp., $19.95 ($59.95 includes diskettes) postpaid from: PeopleTalk Associates, Inc., P.O. Box 863652, Plano, TX 75086.

COMMODORE 64:

ULTRA COPY. Not copy-protected. $40. Ultrabyte, 23400 Michigan Ave., Suite 502, Dearborn, MI 48124; 313/562-9855 • **PROOF READER PROGRAM.** Compute! Magazine, No. 54 (November 1984), page 185. Single issue price, $4 from Compute!, P.O. Box 5406, Greensboro, NC 27403.

RADIO SHACK DESKTOP COMPUTERS:

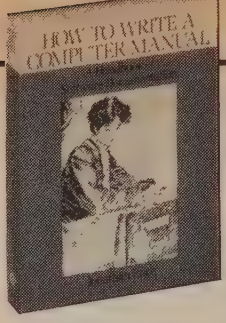
The Alternate Source, 704 North Pennsylvania, Lansing, MI 48906; 517/482-8270.

IN GENERAL:

How To Get Free Software, by Alfred Glossbrenner. 1984; 436 pp., $16.20 postpaid from St. Martin's Press, 175 Fifth Ave., New York, NY 10010 or Computer Literacy.

How To Write A Computer Manual

MATTHEW McCLURE: *Jonathan Price writes documentation for Apple, which produces some of the consistently best software manuals around. This book, formerly called* ***How to Write an Apple Manual****, clarifies the writer's task, with checklists of steps to follow and a general approach that is competent, familiar, engaging, and helpful — all the things he says a manual should be. Follow his advice and write better manuals. Produce better programs, too.*



How to Write a Computer Manual
(A Handbook of Software Documentation)
Jonathan Price
1984; 224 pp.
$21.95
postpaid from:
Benjamin/Cummings Publishing Co., Inc.
2727 Sand Hill Road
Menlo Park, CA 94025
or Computer Literacy

Illustrating BASIC

Illustrating FORTRAN

MATTHEW McCLURE: *Donald Alcock makes learning BASIC and FORTRAN seem like a very natural process. He uses clever tricks, like hand-lettering the whole book so it feels like you're looking at someone's notes. Whenever possible, he uses a diagram or a cartoon instead of a lot of words. It's a very effective method.*

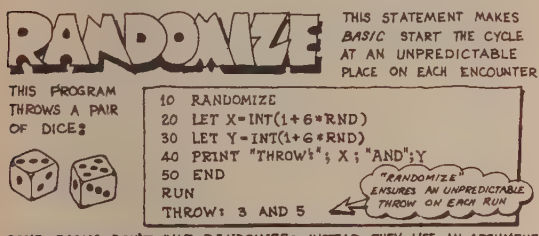
As a side benefit, Alcock shows you how to solve problems with a computer — creating formulas and applying them, explaining the meaning (and usefulness) of trig functions, list processing, and matrix arithmetic, not to mention the basics of control, loops, conditional expressions, subroutines, functions, and files.

I first learned BASIC and FORTRAN more than 15 years ago. I still enjoy thumbing through Alcock's books.

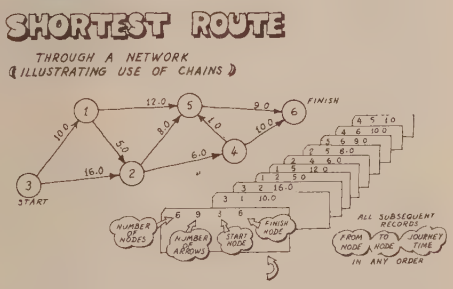
Illustrating BASIC
(A Simple Programming Language)
Donald Alcock
1977; 134 pp.

Illustrating FORTRAN
(The Portable Variety)
Donald Alcock
1983; 132 pp.

each **$9.95** from:
Cambridge University Press
510 North Avenue, New Rochell, NY 10801
or Computer Literacy



—*Illustrating BASIC*



The program starts by reading the first record:

—*Illustrating FORTRAN*

LEARNING

DELETED SINCE JUNE 1984:
WEEKLY READER (STICKYBEAR) FAMILY SOFTWARE — *passive*

RECOMMENDED SINCE JUNE 1984:
ATARI LOGO — *for Ataris*
COMMODORE LOGO — *for Commodore*
TLC-LOGO — *for CP/M computers*
DR. LOGO — *quick and easy for IBM*
IBM LOGO — *extra powerful for IBM*
PC LOGO — *runs on small memory for IBM*
KRELL'S LOGO — *inexpensive on Apple II*
TERRAPIN LOGO — *well documented*
APPLE LOGO — *good all around*
APPLE LOGO II — *for the Apple IIc*
SPRITE LOGO — *fancy, with lots of power for Apple*
TURTLE TOYLAND — *elementary LOGO*
CYBERLOGO TURTLE — *LOGO without words*
TURTLE POWER — *training true programming skills*
ATARILAB — *links up sensing probes to computers*
KIDS ON KEYS — *keyboarding for 4 to 6-year-olds*
KIDWRITER — *short-short storytelling for ages 6-8*
STORY MAKER — *for budding James Thurbers, ages 8-10*

RECOMMENDED HERE:
ROBOT ODYSSEY I
PRINTSHOP
AQUARIUM

Enter the inventive culture of Robotropolis . . .

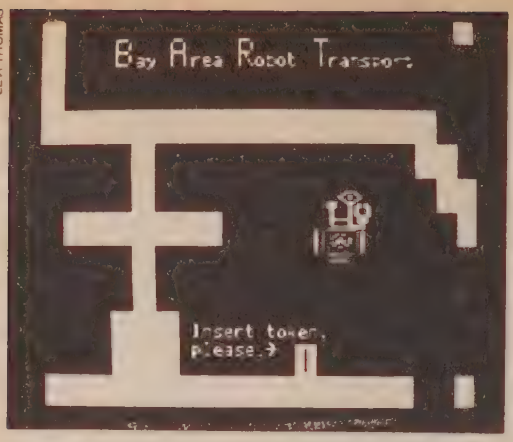
ROBOT ODYSSEY I

Mike Wallace. Copy-protected. $50. Apple II family. Learning Company, 545 Middlefield Rd. Suite 170, Menlo Park, CA 94025; 415/328-5410.

ROBERT SCAROLA: *Not many schools or individuals can afford $2000–$5000 for a prototype robot. ROBOT ODYSSEY I creates a more accessible alternative — an imaginative microworld where students invent, build, and operate their own working, adventuring "robots." This program beautifully binds simulated problem solving to real life activities such as: using the right tool for the right job, soldering, designing and manufacturing chips, building circuits and sensors, and practicing remote robot control. At the same time it illustrates the principles of action/reaction, force and motion, and cause and effect.*

To begin, you must explore the "Robot Tutorials: How to Make Robots Go!" section of the program. Here you are introduced to: the basics of Robot Anatomy (i.e. robot

LEVI THOMAS



One of many obstacles in level 2 (the "Subway") of ROBOT ODYSSEY. You must design and redesign the circuitry of your three robots so they carry you through a series of mazes. You and your other two robots are secreted inside the robot shown here, looking out through the periscope atop its body. If you find the token in the labyrinth and figure out how to carry it, you can ride the transport system up to the next level.

*parts and how they move); what's in your Toolkit and how to use it; and Solutions to Robot Circuits. Master this section first. Then you can go on to sophisticated chip and circuit design techniques, creating your own robot, and disk commands. The more you learn the better off you will be when you start the Odyssey portion of the program. It helps to be familiar with basic electronic terms — "and-, or-, xor-, and not-gates," "flipflops," "input/output leads," etc., and the joystick/cursor/spacebar sequence introduced in this program's precursor, ROCKY'S BOOTS (**WESC** p. 188).*

Now enter the Robot Odyssey. First you see a cartoon of yourself dumped out of bed into the City Sewer beneath Robotropolis. You must find your way out by learning to operate and enhance three basic robot models found at the sewer's entrance. You must evade sentries, avoid the "ampire 'bot," and scavenge for parts as you wend through the sewer labyrinth. Your goal is to escape through the transport chamber to higher city levels. At each level you must learn more about chip, circuit, and general robot design in order to: rewire a robot (the "Subway" level #2), design new chips (the "Town" level #3), solve mapping puzzles (the "Master Control Center" level #4), and "burn" (redesign) a chip in the Innovation Lab (the "Skyways" level #5). The Odyssey challenge is intense and involving, and requires clever invention.

To give some sense of this program's interactive wealth, here are ten-year-old Russell's comments to himself (and the computer) as he happily navigated the City Sewer: "I wonder what would happen if I hooked this up to that? . . . Look, each chip has eight hookups! . . . All I've got to do is get inside a charged-up Robot . . . Wait a sec, I've got to check something . . . I think I have to use the keyboard, its more accurate . . .OK Robot, I don't know what I should do . . . It's worth a try . . . Now I know where I'm going!!!" I recommend you observe your own children working with ROBOT ODYSSEY I. Russell and I can hardly wait for ROBOT ODYSSEY II!

Poster-making as a learning tool . . . PRINTSHOP

David Balsam and Martin Kahn. Copy-protected. $45-$50. Apple II family; Atari; Commodore 64. Broderbund Software, 17 Paul Dr., San Rafael, CA 94903; 415/479-1170.

ROBERT SCAROLA: *MASTERTYPE was created to help students learn typing/keyboard skills. I now believe it has led us in the wrong direction.*

Producing a product is far more motivating than destroying alien spaceships. Keep the arcade games in the arcade. Discard MASTERTYPE, substitute PRINTSHOP. PRINTSHOP is to typing and computer keyboard skills what calligraphy is to writing skills. Students can use it to produce their own greeting cards, signs, letterheads, banners, and text with a wide selection of fonts, icons, borders, and graphics.

To learn mechanics you need to turn some nuts and bolts, twist with a wrench, make something run. To learn typing why not set type, work with letters, make something print? The students I know much prefer to make their own important product rather than practicing for the sake of practice.

ART KLEINER: *At the Whole Earth offices we found the greeting card images and formats to be lame. But the big banners are great. We used them to direct people to the right buildings at the Hackers' Conference.*

And they don't jump out . . . AQUARIUM

Dr. Mark Cross. $25. Apple II family. Cross Educational Software Co., 1802 N. Trenton, Ruston, LA 71270; 318/255-8921.

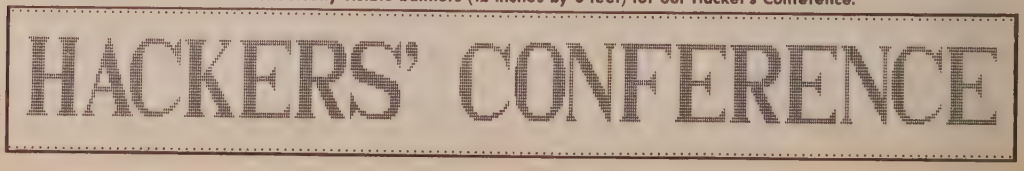
ROBERT SCAROLA: *I enjoy programs that encourage students to modify the BASIC code of the program itself. Simulations like TRAINS are fine, but imagine the opportunity to change the program's code and directly affect how the program works. There is no better way to "personalize" a program or understand how it operates. Unfortunately, most learning programs are copyrighted to the hilt, their code locked tighter than a drum. The rare program that unlocks its secrets should be recognized and applauded.*

AQUARIUM is such a program. It is also relatively inexpensive ($25) and graphically enjoyable. And it offers levels of activity ranging from pure play (fill your aquarium with fish and watch them swim); to light involvement (go "fishing"); to thoughtful involvement (see what happens if you allow too many fish and don't provide enough food); to research (explore how angelfish differ from Siamese fighting fish, or betas from neon tetras); to working with a partner (challenge a male versus a female guppy to pursue a limited food supply); and finally to actually re-programming the program. Thus, the program suits any age from six to adult. Many programs promise such a range, few deliver.

You can use AQUARIUM to study and illustrate fish behavior and feeding, ecology, cause and effect, and food chains. The program is especially valuable if you lack access to a real aquarium. Older children with some BASIC experience can take it much further. The back of the program manual explains how to change the code to

We used PRINTSHOP to make wonderfully visible banners (12 inches by 8 feet) for our Hacker's Conference.

LYN GRAY



generate, save, and print pictures; how to make the fish swim faster or slower; how to make the food fall faster or slower, change the plant color, swimming speed, or guppy birthrate; how to change the object of a hunt for one of the predator fish; etc. Of course, every change affects all other conditions in the aquarium. The program says to students, "Mess around and see if you can improve things, or make the program work the way you want it to."

LEVI THOMAS

The "fishing" mode of AQUARIUM. Pull in neons and guppies, but avoid the big fish; they'll break your line. In another mode, those same fish simulate life in a glass-enclosed aquarium. Change the BASIC code, and set the speeds at which they swim, eat (fish food or each other) and grow.

UPDATE

Some things happen better off the computer

ROBERT SCAROLA: *I enjoyed the STICKYBEAR series (**WESC** p. 186) when it first appeared, but I've reconsidered after seeing the ELF ABC and ELF COLORING BOOK, each of which sell for less than half the price of the STICKYBEAR programs. More importantly, ELF ABC and ELF COLORING BOOK made me realize how passive the STICKYBEAR series is.*

In STICKYBEAR ABC, NUMBERS, and SHAPES, a press of the key calls up new figures on the screen, much as a turn of a TV dial calls up new images. The child is expected to view the illustrated information and thereby (presumably) "learn those ABCs." ELF ABC offers fewer picture choices (every time you press C *you get the same cat picture), but presents each image in outline form for the child to color in with a joystick-controlled color palette. If you intend to teach the alphabet by illustrating letters with pictures, I prefer allowing the children to participate in the creation of the picture.*

However, even the ELF series only gives the child the same thing he or she could get out of a coloring book. If you already own a computer, and your child likes to color, the ELF programs may be worthwhile. But don't rush out and buy a computer just to use them. And we no longer recommend the STICKYBEAR programs at all.

LEARNING UPDATE ACCESS

STICKYBEAR SERIES ($40 each): Weekly Reader Software, Xerox Education Publications, 245 Long Hill Road, Middletown, CT 06457; 800/852-5000 • **ELF ABC** or **COLORING BOOK** ($17.50 each): Elfware, P.O. Box 118, Pollock Pines, CA 95726; 916/644-3300.

ETC.

DELETED SINCE JUNE 1984:
MUSICLAND — *spectacular but defunct*
METATRAK II — *defunct for now*

RECOMMENDED SINCE JUNE 1984:
DRUM-KEY — *2000 drum notes in any combination*
COMMODORE BONUS PACK — *no-frills entry into electronic music*
MUSIC MACHINE — *cheapest synthesizer emulator available*

RECOMMENDED HERE:
The Decillionix DX-1
THE INTERPOLATOR
The Colortone Keyboard
Sensaphone
Personal Computers and Special Needs
Personal Computers for the Disabled

Personal Computers and Special Needs
Personal Computers for the Disabled

MARK O'BRIEN: *As Frank Bowe points out in **Personal Computers and Special Needs**, computers do more for more kinds of disabled people than anything ever made.*

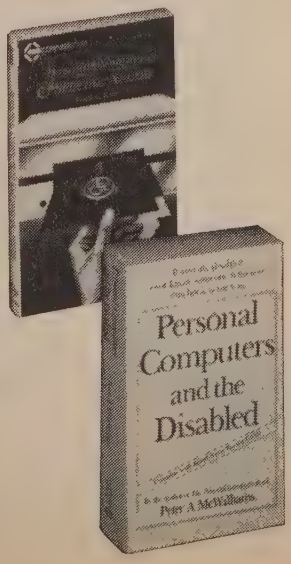
Bowe, who is deaf, knows this in his gut. He knows, for example, that voice-to-print devices now being developed will improve his life dramatically because they will allow him to understand spoken conversation without a sign-language interpreter. His book conveys this sense of sharing exciting news.

***Personal Computers for the Disabled**, Peter McWilliams' fourth computer book, has more technical information than Bowe's book, including detailed critiques of every personal computer, printer, and electronic typewriter I've ever heard of (and many I haven't heard of). McWilliams is learning-disabled (he never mastered multiplication tables), so he sympathizes with disabled people while avoiding sentimentality.*

Although McWilliams writes in an engaging style (Bowe often resorts to jargon) and gives more information on what to buy, I prefer Bowe. Bowe more fully understands how much computers affect the lives of disabled people. Each book contains information lacking in the other, so I'd buy both if I could afford to, but Bowe if I were on a one-book budget.

Personal Computers and Special Needs
Frank Bowe
1984; 171 pp.
$11.95
postpaid from:
Sybex, Inc.
2344 Sixth Street
Berkeley, CA 94710
or Computer Literacy

Personal Computers and the Disabled
Peter McWilliams
1984; 416 pp.
$10.95
postpaid from:
Doubleday & Co.
Direct Mail Order
501 Franklin Ave.
Garden City, NY 11530
or Computer Literacy



Digital Deli

STEWART BRAND: *Computer gossip, much of it great computer gossip. A couple days with this well-edited book can save you two years of perusing 15 computer magazines to acquire the anecdotal ambience it takes to feel comfortable around computer fanatics. The scores of contributors, a who's-who of computerdom, cover a multitude of inside perspectives and fringe ravings. They directly convey the excitement and bemusement these machines keep reinspiring.*

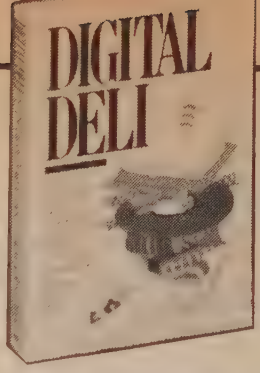
•

I want to explain why the computerized cottage and trees work so well together. First, the finished work of the computer usually weighs nothing, so a post office or telephone line is enough to get it delivered. Second, computers take over a lot of the trivial thinking we do, freeing us to be creative. I have always felt the best background for creative thinkng is complete silence. Programming the present generation of computers in machine language means thinking about twenty things all at once without dropping any of the pieces.

—Paul Lutus

•

For centuries, the Japanese have had to contend with a writing problem that cannot be solved by a borrowed answer. In developing their own solution, however, they could very well supply some answers to problems we all share. It should come as no surprise if Japan were to create a keyboard on a ball, for example, or do away with writing altogether in favor of speech recognition. Indeed, it is not unlikely that the first functional speech machines will come into our homes via Tokyo.



Digital Deli
(The Comprehensive, User-Lovable Menu of Computer Lore, Culture, Lifestyles and Fancy)
Steve Ditlea, Editor
1984; 398 pp.
$14.45
postpaid from:
Workman Publishing
1 West 39th Street
New York, NY 10018
or Computer Literacy

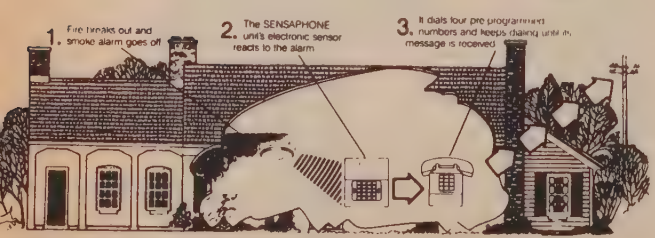
Lutus' original cabin had no electricity. Today his Spanish-style home features such amenities as a satellite TV antenna and microwave oven.

Computer-based peace of mind . . . Sensaphone

$250. Gulf & Western Consumer Electronics, Concord & Tryens, Aston, PA 19014; 215/358-5500.

TOM ZITO: *I live out in the country, far enough away from the neighbors so that my home is prime real estate for burglars, a few of whom paid an uninvited visit ten years ago. This resulted in the purchase of a burglar alarm system for about five grand. You don't have to be a genius to wonder why a computer can't be tied in with such an alarm system. The problem is, using a computer to control a burglar alarm is like using it to balance a checkbook — like using a sandbag to swat a fly. There is software to interface a computer and an alarm system, but I passed on it as soon as I attempted to read the documentation.*

And why should this be limited to an alarm system? Shouldn't the computer be an electronic house-sitter? What if you're away and pick up a newspaper and read that there's been a monumental snowstorm right over your little acre, and just happen to wonder whether your power is off and the pipes have frozen and your basement is now a swimming pool . . .



e SENSAPHONE 1000 talks to the receiving party and states the problem in English "sound level high." Emergency action can be taken at once

The solution is a dedicated little $200 computer called the Sensaphone, made by Gulf and Western. It looks like a Texas Instruments Speak and Spell, but it's a lot smarter. You put some batteries inside it, hook it into your phone line, and plug it into an electrical outlet. It comes with an instruction book that is a model of clarity, and the Sensaphone itself prompts your programming tasks with its built-in speech synthesizer chip. It monitors several conditions: the temperature, the time, the ambient sound level in the house, and, with the help of two auxiliary sensors, the presence of water and the status of your alarm system (if you have one).

If you read about that storm, you call your phone number. The Sensaphone answers after some user-determined number of rings. Then it talks to you in plain English. It tells you whether the power is on, whether the back-up batteries are OK, what the temperature is, what time it is, whether there's any water on the floor, and whether there have been any loud noises in your house (for instance, a smoke detector). It also lets you monitor the sound in your house for 15 seconds, in case you're wondering whether Rover is howling at the moon.

That's the peace of mind component. In addition, the thing can be programmed to call up to four numbers and let them know that something has gone awry. So if your basement is flooding, it can call a neighbor and say so, even though you happen to be off in Tibet. Or it can call the police and say that somebody has just knocked down the back door. Or if the furnace turns off, and the temperature drops below some user-selected point, it can call your furnace repair person. Ditto if the power goes out (it can operate for 18 hours on battery power).

The Sensaphone keeps calling the numbers until it reaches one of the people you've chosen to take care of problems in your absence. Or it could just be calling you at the office. Or, if you're like me, you'll find yourself inexplicably

calling this computer every few hours just to hear it talk. The thing is so smart that it holds off a bit in certain circumstances before dialing; e.g., if the power comes back on within five minutes. How come my IBM PC can't be this helpful?

ART KLEINER: *With computers, appropriate technology sometimes means a machine dedicated to one job, not a single computer handling everything. The Sensaphone is a perfect example; we'll see many more appear. Me, I'd like to see a self-contained electronic rolodex, sitting on my desk next to a computer, with a little keyboard all its own. Instead of stopping my computer's program to add a name to my rolodex, why can't I just type it into an extra device, and run a cable from there to my computer or printer whenever I want to print out labels?*

Call 800/228-8466 to hear the Sensaphone in action.

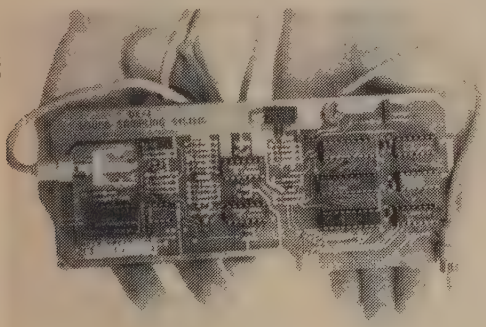
Breathe in sound, breathe out music . . .
The Decillionix DX-1 • THE INTERPOLATOR

Dan Retzinger. $350. Apple II family; Franklin. Requires amplifier or speaker, and microphone. Decillionix, P.O. Box 70985, Sunnyvale, CA 94086; 408/732-7758.

Paul C. Craner. Version 4.3. $100. Apple II+, IIe. Computers and Music, 1989 Junipero Serra Blvd., Daly City, CA 94014; 415/994-2909.

JOE WEST: *The DX-1 is a sound sampling package you can plug into your Apple II to record natural sounds, edit them, and play them back. The pitch is controllable, and samples can be split 12 ways up and down the keyboard. This is a killer. If techno-pop/rock/whatever is your thing, you've got to hear it in action.*

DON RYAN

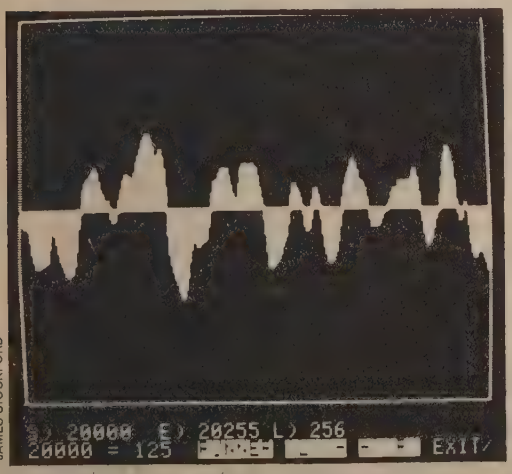


This little board, part of the Decillionix package, lets an Apple II work as a digital recorder.

The hardware is a fairly simple board with a microphone input (you supply the microphone) that translates recorded sounds to digital information. The software includes a built-in sequencer, many editing options, prerecorded sound bases (guitar, percussion, sound effects), and the ability to accept music as played from the Apple keyboard or from the Syntauri or Passport keyboard. For the price it is an incredible toy.

JAMES STOCKFORD: *THE INTERPOLATOR, a utility for the DX-1, converts its digitally encoded sounds so owners of Syntauri, Passport, and Mountain Music system devices can use it — for analysis of a waveform's harmonic content, or for printing out the soundbase on a chart recorder.*

JAMES STOCKFORD



The Interpolator/DX-1 combination captured the sound of Yamaha's new synthesizer — it looks like this.

A keyboard for MUSICALC . . .
The Colortone Keyboard

$80. Commodore 64. Waveform Corporation, 1912 Bonita Way, Berkeley, CA 94704; 415/841-9866.

JOE WEST: *Made by the people who make MUSICALC, this is a membrane keyboard with software. Sheet music is onscreen. You can see the notes going by, and you can use the MUSICALC software to print out your composition. However, you know how long the C-64 takes to load things into memory? You've got to want to print that stuff real bad. For lots of limited fun, load its software and play along either with its own preprogrammed sounds or with MUSICALC. For $79 it's great.*

UPDATE
Trouble in musicland

JAMES STOCKFORD: *Music software is undergoing concrete change. The Syntauri Corporation, whose products we've reviewed (MUSICLAND,* ***WESC*** *p. 194; and METATRAK II,* ***WESR*** *#3), has folded. The product is still alive, oddly, in the form of the International Syntauri Users' Group, several third-party developers, and at Mimetics Corporation, Syntauri's closest living relative (programmer/owner Scott Gibbs developed the Metatrak system when he worked at Syntauri and retains the rights to Metatrak in the event of Syntauri's legal demise).*

The International Syntauri Users' Group (ISUG) began two years ago on a homebrew level. They now run monthly meetings for more than 100 dues-paying members at New York University, which sponsors the space. They exchange ideas and information on music synthesis generally, not just Syntauri products. They publish a monthly on-disk newsletter, Syndisk, which contains (on an Apple II format) songs, sounds, general music info, product reviews, utility programs, and ideas on computing.

Says Bill Lewis, newsletter editor, "I think the group is going to grow beyond the scope of the Apple. We've had demos on the C-64 and other machines. We're just starting a public access bulletin board in New Jersey. All issues of Syndisk will be on the BBS — 201/661-1249. First time users are welcome to browse. To register for higher access, join the group."

ETC. ACCESS

ISUG ($35/year membership dues): P. O. Box 85, Shirley, NY 11967; 516/399-1896. • **SYNDISK**($100/year [$50/year to ISUG members] for 12 issues; $10 [$5] per single issue): Syndisk, P. O. Box 85, Shirley, NY 11967; 516/399-1896.

KILLING FIELDS

2010

GOOD MOVIES

by Sheila Benson

You aren't likely to get **THE KILLING FIELDS**, as fine as it is harrowing, out of your memory — ever. It's the true account of *New York Times* correspondent Sydney Shanberg and his Cambodian assistant Dith Pran during the Khmer Rouge takeover, and of Dith Pran's agonizing years afterward in the "killing fields," when three million Cambodians were murdered or starved to death. The film is the best of the various movies about journalists in wartime (it's what the melodramatic and specious **Under Fire** should have been), because new director Roland Joffe has let us feel, as though we were living through it, the confusion and sweating panic of civil war — and its horrific aftermath. But with all its grimness, it is the film's portrait of survival which allows it to soar. This one should go straight to the top of your must-see list.

★ ★ ★

2010 is a tour de force for director Peter Hyams **(Outland)**, who also wrote and produced and did its principal photography. With faint reservations about the implications of its ending (divine intervention is certainly a pleasant alternative to mediation, but an awfully easy way of passing a buck), it seems a taut and fitting successor to **2001**. After a brief look at a gently futuristic Earth (an aquarium for every home), it moves to the fringes of the orange-red Jupiter and its moons. There a Russian spaceship, *Leonov*, arrives, carrying its own crew plus three Americans (Roy Scheider, John Lithgow, Bob Balaban) on a mission to recover *Discovery* and to investigate those inpenetrable monoliths once more.

It's pretty funny to speculate that the Russian crew, with the exception of its curly-headed captain Helen Mirren, was lifted bodily out of Bloomingdale's (and **Moscow on the Hudson**, where most of these émigrés made their debut) and dropped into a spacecraft. That giggle aside, the film's elegant visuals are clean and sumptuous, the effects (under Richard Edlund's supervison) are breathtaking, and all hands seem to have been perfectly cast. Oh yes, and HAL *and* Keir Dullea are back.

★ ★ ★

In 1976, Elaine May directed a resonant and quietly frightening behind-the-scenes look at middle-level mobster life called **MIKEY AND NICKY** with (respectively) Peter Falk and John Cassavetes, and a masterly supporting cast. To say it sank without a ripple is far from true — it made several Ten Best lists and Stanley Kauffmann's brilliantly illuminating essay on it in his **Before My Eyes** collection was only one of the voices heard in its praise. Now, the same hands that raised **Tomorrow** from obscurity are rereleasing the May film. It's only in scattered areas now, but it will move across the country. It's eminently worth your time.

★ ★ ★

The miracle about **THE TIMES OF HARVEY MILK** is that a documentary film that loses its irreplaceable central character in so despicable a fashion can be such a message of strength and conviction at the same time. Directors Robert Epstein and Richard Schmiechen have kept their intelligent and deeply moving account of the life and death of the San Francisco Supervisor, murdered along with Mayor Moscone by fellow Supervisor Dan White (now free after five years), free of the deep anger it might rightfully contain. The result is a film for everyone, impeccably made and far-reaching in its importance, especially in these days when gay and personal rights seem to be in for it again.

★ ★ ★

The ending of **THE FLAMINGO KID** goes so completely sappy you writhe, yet I wouldn't have missed a second of what went before — the wryly funny story of a Brooklyn plumber's son (Matt Dillon) and his brush with the high life, working as a cabana boy in Far Rockaway in the early 1960s. **Diner** it's not, but director, co-writer Gary Marshall has an eye, an ear, and perhaps a memory for this prime **"Gidget"** period that is devastating, and Richard Crenna is memorable as the king of the swimming club who becomes Dillon's mentor and temptor. ■

MIKEY AND NICKY

THE FLAMINGO KID

Echoes from readers back to the *Whole Earth Review*
(27 Gate Five Road, Sausalito, CA 94965)

Flashback fragment

. . . We were both very *different* when we met Moe on the roof of his building later. We tried to tell him about it but couldn't.

I can see us there silently standing on our rooftop island listening to the waves of traffic breaking on the buildings stretching endlessly under the stars.

What *was* standing there?
Were you there in any like time or place?
Earl and I had a clear vision.
We knew — who we were, *why we were* here on earth, *and what we were* doing.

Perhaps you've had the same feeling? I won't try to describe it.

That feeling is the substance of the search we've all been on.

Can we as a (dare I say) tribe re-address that *feeling* as a priority? I get the idea that we have so perfectly camouflaged ourselves that all we have left are the "clues" to paper our lives.

Rod Ewald
Friday Harbor, Washington

Karma made us do it

This note is from Joshua Kinch — the dude who sent in his **CQ** collection after you published the article about Baba Muktananda. It was not something i did easily, but i was/am certain you erred in presenting your case.

The bottom line was that you made it that much harder for someone to have FAITH, and i believe that lack of faith is the key issue today. Faith in anything — anything. But faith in the intangible. If Baba did let some people down i still believe his good acts far outweighed his flaws. But we already had that discussion, didn't we?

I also *knew* — somehow — that **CQ** would have to pay, pay dearly, somehow, for this besmirch. Not so much out of a sense of revenge, but in the time-honored sense of cliche Karma. You blow it — you eat it.

Now i have heard that **CQ** will cease to exist. Call it what you will but even in Marin County sometimes a fact is a fact.

My point is so obvious as to be boring — but, it is a point, and i sincerely believe it is valid. Baba once remarked that Jesus was a wonderful saint and that turning the other cheek was good *for* Jesus. Baba said he would chase a rogue and knock him down to teach him a lesson, though.

I wish the new magazine well as part of me will always feel for the whole trip you've helped with, and helped so well. But something is dying — not just changing, and deep down you know it too.

Joshua Kinch
Mendocino County, California

P.S. Computers really are neat. They just don't *mean* anything, though.

An ugly hoax

I read "Bad Seeds" by Charles Pappas (**CQ** #42). It may sound absurd but I identify with what the author is saying from the corners in life I've been around and as a teacher in an elementary school (of 19 years). I hate to admit it, I struggle against it but the truth is one can see it coming in some kids *very* early. By "it" I mean the personality disturbances leading to violence, jail, no social values or conscience developing. I have a five-year-old this year who is headed in that direction unless . . . unless that unlikely event in his life happens. It's in his family background, in his life right now and the other children in my class are really stretching as we "go the distance" for this person. But who will care *next* year in his school experience?? His family life is unlikely to change.

The other thing Pappas says is that it's unfashionable for us to speak of evil. Last Feb. in Vancouver, Robert Bly waved a mask of Kali and said one of the biggest hoaxes we've played on ourselves is to say evil does not exist. That forces it, our darker side, to twist into perverted expressions (which Pappas describes so clearly). We pay heavily for that denial.

Enough. Again, I don't like it; it's ugly but I know what Pappas is talking about.

Juaneva Smith
Qathiaski Cove, British Columbia

The medium hogs the message

I am thrilled by the miracle of modern printing and typesetting that allows me to receive your magazine, but if that magazine only wrote *about* typesetting, it would be pointless; it would be a closed loop (your term).

I want to know *you;* if printing presses help me to find out about you, thank you printing presses, but now let's hear about *you*. If a personal computer and its network helps you develop marvelous news ideas, well three hearty cheers for the computer, but now let's hear about those ideas! Cannot **CQ** keep the focus on us, rather than on the tools which, admittedly, help us to become better uses? God help me from the day I look harder at photographic paper than I do the person the picture is of.

Robert B. Mercer
Oklahoma City, Oklahoma

Poisonous interruptions

The most evil, stinking, slimy side of computers is the computer telephone call. Sure, Sears uses it well to tell you your order has arrived, but that is a distinct minority. What I get mostly is anonymous calls from computers that expect me to give personal information (usually the name of my insurance company, for some reason). At first I thought the vile things would go away by themselves, simply because they would arouse so much hatred toward those that use them that they'd have to be abandoned as an advertising technique. But then I discovered these anonymous calls used as "surveys." I listened a couple of times to get the company's name so I could forever boycott them (or program my PC to call them endlessly), but to no avail. They're too smart for that. Now I just hang up, and the demon goes on to invade someone else's privacy.

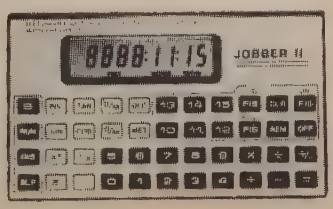
Michael Morse
Garrett Park, Maryland

Metric argument defused

Last issue we printed a letter from Fletcher Cox bemoaning the lack of a logical computer tool: "Why can't I buy a calculator that does common fractions?"

You can. It's called the Jobber II, credit card size, and $75. You enter a measurement in feet and inches (to the nearest $^1/_{16}$-inch) and then add, subtract, multiply, convert to metric, or solve roof pitches. Your solution is in feet and inches, and correct for a change. The only thing it lacks is a punched hole to hang it on a nail. Order from Boyd Calculator Company, 6620 Lozier St., Houston, TX 77021 (800/231-9920).

— Kevin Kelly



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POINT FOUNDATION
Paul Hawken, Huey Johnson, Doug Carlston, Stewart Brand
Irmine Steltzner,
Secretary
Joe Kane
Whole Earth Chronicle Column

Gossip

KEVIN KELLY: *You probably have been seeing more of Stewart than we have lately. He's been on a grueling month-long road gig promoting the apparently briskly selling* ***Whole Earth Software Catalog****. A nationwide tour, headed this week for language-wide as Stewart stumps England. Five interviews a day that leave the mind like jelly by evening, good only for the TV news in a hotel room. Too squeezed to even log onto our computer network conference (C1031 on EIES), the favorite addiction of some in these offices.*

Back at the ranch a steady flow of reviews and articles about the ***Software Catalog*** *pour into Sausalito and attach themselves to our bulletin board:* ***New York Times, USA Today, Discover, Newsweek, Rolling Stone****, etc. A staff pastime is checking out the wall to see the daily crop. All but one (****InfoWorld****, November 26, "Whole Earth Catalog Hype") have been embarrassingly complimentary.*

Posted also are clippings from another endeavor, the Hackers' Conference held November 9-11 at Fort Cronkhite, Sausalito, site of the Uncommon Courtesy sessions. Most delightful item is a full-page ***Time*** *magazine story (December 3); our account of the Hackers' Conference will run in the next issue. We are still recovering.*

On short notice the conference was hacked together by computer programmers and Whole Earth staff and family. During the high energy of the conference Lyn Gray, our software librarian, was the center-of-calm HQ commander. J. Baldwin was summoned out of his nomadic homestead to assist with heavy electrical demands in an electrically undependable location. He, Jim Stockford (assistant editor, former concert sound man), and Cliff Figallo (our hardware custodian) spent a lousy Friday night tending four smelly, deafening emergency generators when Fort Cronkhite's power (and all the hackers' computers) went off for five hours. My brother Brian, visiting from Seattle, was shanghaied into moving mattresses and chairs during Saturday's constant rain.

Art Kleiner and Matthew McClure (managing editor of the ***Software Catalog****) were able to locate and organize nearly 400 addresses of hackers who are often loners and tend not to read mail or answer phones. The reason why 130 of them were able to come was because of Whole Earth Jamboree (1978) organizer Patty Phelan's ceaseless telephoning, detailed scheduling, unflagging attention, and general enthusiam for hackers, the event, and the people helping.*

Life's carousel goes up and down. Up: office manager Andrea Sharp repeated her performance of four years ago by delivering her baby at home and reporting in to work the next week, sir. Two-week-old second daughter Sophie and Andrea share an office, like an earlier co-op with first daughter Sarah.

Down: in the courtyard the traditional daily set of volleyball games has been somewhat comatose these days since Point ceased paying for that time. Still, any volleyball game meant Ethelwyn was there. Ethelwyn Steese (age 71), Queen of the

Andrea and Sophie.

Newsstand Consultants: **David Maisel, Howard Eisenberg.**
Mailing Services: **American Press, Columbia, Missouri; Publishers Aide, San Diego, California.**
Mailing List Brokers: **Pacific Lists, Mill Valley, California; Triplex Direct Marketing Corporation, San Rafael, California (fulfillment).**
Stats and Halftones: **Marinstat, Mill Valley, California.**
Printing: **Progressive Graphics, Oregon, Illinois (film work); American Press, Columbia, Missouri.**

Volleyball Court, lived in a nearby houseboat and sat on the sidelines during nearly every game to chide, cheer, insult, and lend an air of gaiety equal to a crowd of a thousand. "Too vigorous!" she'd shout at no one in particular when the ball rocketed over the fence. A net ball received an automatic "You will learn in the course of time." "Slazy slug!" and "Not on the volleyball court!" were saved for a particularly bad shot, and the curse following it.

Ethelwyn died one recent Saturday of an aneurysm, in her sleep. According to David Burnor, staff librarian, her daughters came by to borrow books on death and dying from our collection and told him "your volleyball games were one of the high points in Ethelwyn's life. Thanks for including her."

Ethelwyn, thanks for including us.

"Or Whole Earth Access"

That phrase under access information in the **Whole Earth Review** means you can mail order the item from the Whole Earth Access store. *Do not send orders for books to* **Whole Earth Review**. Send orders to:

Whole Earth Access
2990 Seventh Street
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Rush orders U.P.S. (Continental U.S.): 40 cents additional charge per book.

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That phrase means you can order these items from Computer Literacy, a bookstore specializing in computer related books.

Send orders to:

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Add $1.50 for one or two books. Orders sent by U.P.S.

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California delivery: Add 6% tax (BART counties add 6½%).

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A Good Health Insurance Program

Worker's Trust

DAVID COHN: *A recent project at Whole Earth was to find a health insurance program for our own employees. The criteria were 1) lowest price, 2) most comprehensive coverage, and 3) affinity with the values of the insurance company. Meeting any two of these criteria would have been sufficient; we found a company with clear superiority in all three.*

Worker's Trust, based in Eugene, Oregon, is a non-profit association which is dedicated to providing support and services specifically for democratically-operated organizations. Worker's Trust's primary service and its economic foundation is a fully-insured health trust which is owned and controlled by members. Administration costs are kept at a minimum (12 percent). All excess monies from the premiums that have been collected are returned to the participants at the end of each year as an "experience refund."

Worker's Trust's progressive plan offers a far more comprehensive and, I feel, relevant range of health care benefits than do comparable plans. Instead of adhering to traditional biases and trimming benefits to the minimum, they provide choices between traditional medical treatment and sensible alternatives. Coverage includes: 1) full outpatient care, such as visits to the doctor of your choice, x-rays, physical therapy, and prescriptions; 2) all hospitalization costs, including second surgical opinions; 3) unusually extensive women's benefits — annual GYN exam, home pregnancy tests, elective abortions, and infertility work-ups (also infertility work-ups and vasectomies for men); 4) flexible pregnancy benefits covering childbirth classes, all costs for delivery in hospital, home, or birth center, and 5) complete well-baby care up to two years, and all immunizations up to five years.

Worker's Trust shines in its alternative health care coverage, which includes acupuncture, naturopathy, homeopathy, nutritionists, chiropractic, biofeedback, massage therapy, and alcohol/drug abuse treatment.

I found Worker's Trust fees to be significantly less expensive than other plans that have fewer benefits. The monthly fee in 1984 was $66.80, regardless of one's age or sex. This plan, for the most part, is $100 deductible, 80 percent coverage up to $2500 in expenses, and then 100 percent coverage from $2500 to $1 million. Other $100-deductible plans that we looked at are $10 to $50 higher per month, and charge more if you are a woman and as you get older.

Worker's Trust is committed to a socially responsible investment policy which is particularly supportive of poorer communities. Insurance companies and banks are the largest single source of capital in the United States, investing over $1 trillion annually, so how they invest has tremendous social impact. Worker's Trust reserves are placed in such investment vehicles as federally-insured community credit unions and community economic development funds, worker-owned corporations, low-income housing coops, and socially responsible money funds. It is responsive to members' recommendations of worthwhile investment opportunities.

What kind of financial shape can this good-will business be in, then? In fact, Worker's Trust looks like it is in excellent financial condition, which bears out the maxim: "good service is good business." It is underwritten by Consumer United Insurance Co., the largest worker-owned and -controlled insurance company in the United States, with $40 million in assets. Our interviews of Bay Area membership groups indicate that, to date, no group has left Worker's Trust out of dissatisfaction with services.

Membership fees are guaranteed for one year, which is unusual. If changes in benefits and/or fees are suggested for the following year, membership opinion is solicited well in advance. (Because medical inflation is at 17 percent, there must be a fee increase at Worker's Trust in 1985.) Worker's Trust's financial statements are published in an open and readable way, with graphs and an editorial that tells you what is going on in plain English. This company conveys a sense of democracy at work, blending human feeling with a good sound business practice.

Worker's Trust
P.O. Box 11618
Eugene, OR 97440
(800) 447-2345

Whole Earth Review

(Combined Information for CoEvolution and Software Review)
September & October 1984

Income			
Subscriptions & Renewals	69,089	Mailing List	8,259
Direct Distribution	18,745	Unclassified Ads	−387
National Newsstand	23,195	Contributions	602
Back Issues	391	Miscellaneous	4,268
Total Income			**124,162**

Expenses			
Freight (Distribution)	4,092	Salary — Office	14,274
Nat. Newsstand (Freight, Consulting)	2,351	Salary — Circulation	5,673
Printing (Magazines)		Payroll Taxes/Benefits	6,634
CoEvolution #43	20,389	Equipment Rent & Maintenance	727
Software Review #3	40,359	Supplies (Office, Production, Computer, Research)	4,620
Whole Earth Review (Misc.)	300	Auto, Travel	2,686
Mailing List	557	Postage	1,661
Subscription Promotion & Fulfillment	12,632	Rent & Building Maintenance	10,742
Writers & Contributors	14,004	Telephone & Networks	4,741
Salary — Editorial	22,003	Utilities	545
Salary — Research	14,053	Equipment Purchase	12,084
Salary — Production	11,033	Miscellaneous Operating Expenses	1,668
Total Expenses			**207,828**
Profit/Loss			**−83,666**

Point Project Reports:

September & October 1984

Whole Earth Software Catalog	
Income	
Software Catalog/Direct Sales	11,998
Doubleday/English Advance	19,526
Total Income	31,524
Expenses	
Software Catalog/ Fulfillment	3,370
Writer/Contributor	7,260
Printing Expense Repay	−18,576
Total Expenses	−7,946
Profit/Loss	39,470

Chronicle Columns/Royalties	
Income	6,785
Expense	3,440
Profit/Loss	3,345

Other Products	
Income	4,178
Expenses	81
Profit/Loss	4,097

Overall Point Profit/Loss	
Income	166,649
Expenses	203,403
Profit/Loss	−36,754

Whole Earth Review Update

RICHARD NILSEN: *Three changes this time from the* ***Next Whole Earth Catalog****. Airborne Sales Co. (p. 150) and their surplus catalog have gone out of business. The* ***Sport Diver Manual****, for learning how to scuba dive (p. 454), has a new mail-order access address: Jeppesen Sanderson, 55 Inverness Dr. East, Englewood, CO 80112. And the biography of Indian holy man Aurobindo,* ***Sri Aurobindo, or the Adventure of Consciousness*** *by Satprem (p. 587), has gone out of print in its Harper & Row edition but is available in a new translation by Luc Venet from a new publisher, the Institute for Evolutionary Research. It can be had for $11 postpaid from: Matagiri Sri Aurobindo Center, P.O. Box 372, High Falls, NY 12440.*

From the last ***CoEvolution Quarterly*** *(Fall '84) there is one change of address. The Mountaineers publishers have moved, and their book* ***Bicycling the Pacific Coast*** *(p. 98) is now available from: 306 Second Ave. West, Seattle, WA 98119. Back in the Spring '84 issue we ran a review of the Solait Nonelectric Yogurt Maker (p. 21). Shortly after, the manufacturer, Crayon Yard Corporation, went out of business.*

Thank you

Maniacal Subscribers ($1000)

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OTHER PRODUCTS

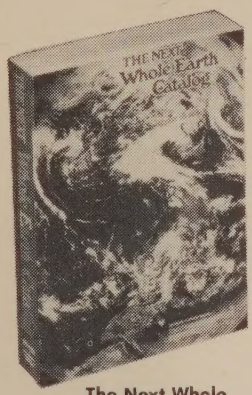
Whole Earth Access Company, in Berkeley, not only handles the mail order fulfillment of books reviewed in *WER*, but also handles the "other products" that we used to sell; yes, even CQ T-shirts.

CoEvolution T-shirt
$8 XS (youth's 14-16), S (34-36), M (38-40), L (42-44)

Bluegenes T-shirt
$10 S (34-36), M (38-40), L (42-44), XL (46-48)

CoEvolution Sweatshirt
$16 S (34-36), M (38-40), L (42-44), XL (46-48)

SOLD OUT



The Next Whole Earth Catalog
2nd Edition (1981)
$16 ppd.

CoEvolution Quarterly Back Issues
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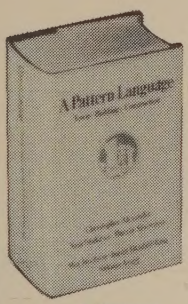

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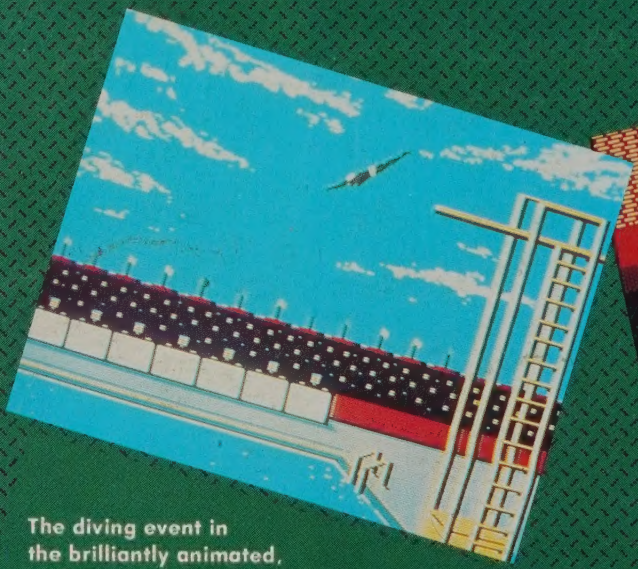
MAC CLONES

Personal computers make terrific art studios. On page 86 of this issue, we compare the groundbreaking black-and-white drawing program MACPAINT (on the Macintosh) with the "Mac Clones," its new color imitators on the IBM PC and Apple II. The above screen images show, left to right: PC PAINT, which offers good color and pattern selection; MACPAINT, still the most graceful to draw with; and PC PAINTBRUSH, which works well with a variety of graphics hardware and other programs. Cartoonist Robert Morgan created the center drawing, "If you ask me . . . ," with PC PAINTBRUSH and printed it on an IDS Prism color ink-jet printer.



The diving event in the brilliantly animated, addictively wonderful computer olympics program SUMMER GAMES (page 80).

Like a computer-age Little Nemo, the hero of ROBOT ODYSSEY I falls into the bowels of "Robotropolis." Escape requires a new kind of logic (page 95).